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Revue dirigée par

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QUELQUES TRANSCRIPTIONS CHINOISES DE NOMS TIBÉTAINS

PAR

PAUL PELLIOT.

Monsieur B. LAUFER a publié dans le *T'oung Pao* de mars 1914, à propos d'une table tibétaine de divination provenant de Tounen-houang et que M. BACOT avait éditée et traduite, une étude que toute personne s'intéressant au passé du Tibet devra lire avec la plus soigneuse attention¹). Ce travail comprend deux parties distinctes. Dans l'une, M. B. Laufer montre que la table de divination de Tounen-houang, au lieu de s'appliquer aux présages tirés des éclairs comme l'avait cru M. Bacot, concerne les cris du corbeau, et s'apparente étroitement à un texte incorporé au *Tanjur*, la *Kakajariti*. La discussion que M. Laufer institue à propos de ces deux textes est des plus minutieuses, et, appuyée comme toujours par la prodigieuse lecture de notre confrère, aboutit à un ensemble de résultats qui peuvent être considérés comme acquis dès à présent. Dans la seconde partie, M. Laufer étudie, en s'appuyant sur notre texte, sur les inscriptions de Lhasa et sur les *Histoires des*

1) Berthold Laufer, *Bird Divination among the Tibetans* (Notes on document Pelliot n° 3530, with a study of Tibetan phonology of the ninth century), dans *Toung Pao*, 1914 pp. 1—119.

T'ang, la paléographie et la phonétique ancienne du tibétain. Ce qu'il dit du *da-drag* (ancien *d* final des groupes *-nd* ou *-nt*, *-rd* ou *-rt*, *-ld* ou *-lt*) est aussi neuf que solide. Sur l'*i* inversé, je ne crois pas au contraire que la solution qu'il préconise soit la bonne: dans la sorte de catéchisme sanscrit-tibétain intitulé *Mantra mudropadeça* que j'ai rapporté de Touen-houang, et dont l'édition, préparée par M. Hackin, est actuellement sous presse, l'*i* renversé représente i long dans les transcriptions du sanscrit. Au point de vue enfin des noms tibétains donnés en transcription chinoise, le travail de M. Laufer marque un progrès énorme sur tout ce qui avait été fait avant lui. Il s'en faut cependant que je puisse souscrire à toutes ses hypothèses ou à toutes ses restitutions. Ce sont ces divergences que je crois bon de signaler. Il serait fâcheux d'introduire dans les travaux historiques, à côté de formes parfaitement certaines, quelques restitutions ou interprétations inexactes. Dans les notes qui suivent, je m'attacherai donc avant tout à préciser ou à rectifier les restitutions phonétiques proposées par M. Laufer ¹⁾.

1) En étudiant sur la planche de Boshell et le déchiffrement de M. Lo Tcheu-yu les noms des personnages tibétains qui ont juré l'alliance de 822, il semble qu'il ait échappé à M. Laufer que M. Waddell, assisté de M. Parker, avait déjà publié dans le *J. R. A. S.*, 1911, p. 425—435, un travail analogue, basé à la fois sur la reproduction publiée en 1860 par Boshell et sur une copie manuscrite prise à Lhasa par M. Waddell lui-même. Ce travail antérieur ne donne d'ailleurs pas les caractères chinois et ne comporte pas de discussion phonétique; il est beaucoup moins exact que celui de M. Laufer; j'aurai toutefois l'occasion d'y signaler dans quelques cas des lectures qui me paraissent préférables à celles que notre confrère vient de proposer dans le *Toung Pao*. — Je parle du serment d'alliance de 822, et non de 783 comme le voudrait M. Waddell. M. Waddell avait avoué démontré que l'inscription qu'on rapportait au règne de Mou-tsang et qu'on datait de 822 concernait en réalité Tsé-tsang et devait être ramenée à 783. Les arguments qu'il invoquait n'avaient pas la valeur qu'il leur attribuait, et on eût pu y répondre sans grande peine. Mais la question est tranchée par un argument de fait que M. Waddell ne pouvait pas connaître. En même temps que sont énumérés les fonctionnaires tibétains qui ont juré l'alliance (ce sont ceux que MM. Waddell et Laufer ont étudiés), l'inscription donne les noms des fonctionnaires chinois qui ont pris part à la cérémonie; on trouvera cette liste dans le travail de

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1° 尙綺立贊窟寧悉當 Chang-k'i-li-tsan-k'ou-ning-si-tang (*Zaā-khi-lip-can-khw³-niā-siā-tān) (p. 73)¹⁾. Ce nom de l'inscription bilingue de 822 est représenté de manière certaine en tibétain par Zaā-khri-bean-khod-ne-stān²⁾. M. Laufer invoque le nom suivant pour établir l'équivalence *k'i-li* (*khi-lip) = *khri*, et ajoute que *tsan* (*can) est la transcription fréquente et régulière de *-bean*. Il me semble bien qu'il faut prendre les choses autrement. Comme l'a fait remarquer M. Laufer, les préfixes tibétains, dès l'époque des T'ang, étaient souvent muets, mais ils sonnaient le plus souvent lorsque les conditions étaient favorables, c'est-à-dire lorsque le mot auquel ils appartenaient se combinait avec un mot précédent à finale vocalique (p. 86). C'est précisément le cas ici. *Tsan* (*can) est la transcription de *bean* lorsque le suffixe de *bean* est muet. Mais ici le mot *bean* se soude au *khri* précédent en un complexe *khribcan*

M. Lo Tchen-yu utilisé par M. Laufer. Or les noms de tous ces fonctionnaires sont ceux des personnes que le *Sin t'ang chou* énumère pour la mission de 822, en particulier

劉元鼎 Ideou Yuan-ting, et un lettré bien connu, 牛僧儒 Nieou Seng-jou; en 783, Nieou Seng-jou était un tout petit enfant. Il reste à vrai dire surprenant qu'on ait sur la même pierre le traité traduit par M. Waddell en 1909 et qui serait aussi, toujours selon M. Waddell, de 783. Toute la question méritera d'être reprise pour ce premier texte, en utilisant, à côté des histoires des T'ang, les sources annexes aussi nombreuses et un estampage assez ancien que j'ai rapporté à la Bibliothèque Nationale. Mon impression est que cette première inscription est dans le même cas que la seconde, et date aussi de 822. En tout cas, la date de 822 est certaine pour celle qui nous occupe ici.

1) C'est par erreur que M. Laufer, ici et dans d'autres noms que nous verrons plus loin, a le 思 *sue* là où je donne 悉 *si*. La forme est certaine, et correctement reproduite par M. Lo Tchen-yu; c'est une variante archaïque de *si*, parfaitement attestée par l'épigraphie.

2) Dans cet article, le *x* et *f* des prononciations chinoises anciennes et de la transcription du tibétain représentent les affriquées sifflantes (*ts*, *dx*); *č* et *j* sont les palatales (ou affriquées rhinantes?) correspondantes. Il y a parfois doute sur le timbre *a* ou *o*, *i* ou *e* des voyelles chinoises. Pour les implosives finales du chinois, la dentale est exprimée par la spirante *đ*, parce que j'adopte une valeur intermédiaire entre le *-t* qui fut peut-être primitif (mais il n'est pas sûr que la *con* ait été général) et l'*-r* auquel cette implosive était passé dans le Nord de la Chine sous les T'ang. Pour les implosives labiale et gutturale, j'ai gardé *-p* et *-k*, mais sans garantir qu'elles n'aient jamais été ni sonores ni spirantes.

qui sonnait dans une certaine mesure *khrīb* | *can*. Aussi *tsan* (**can*) du chinois ne représente-t-il ici que *can* du *tsan* tibétain, et le *ō* initial, devenu finale de *khrīb*, est rendu par l'implosive finale de *k'i-k'i* (**khi-lip*). Pour *ning* (**niñ*) transcrivant *ne*, M. Laufer pense que cette transcription établit pour le *ne* tibétain une prononciation nasalisée; je ne crois pas que la présente transcription puisse être interprétée dans ce sens. Les transcriptions manichéennes, turques, tibétaines de mots chinois à l'époque des T'ang nous montrent que dans la Chine du Nord, le *-ng* (*n*) final était régulièrement tombé après la voyelle palatale (*i*), et qu'après la voyelle gutturale (*a*), il tombait parfois aussi en changeant le timbre de cette voyelle en *ō*: nous connaissons, timbre vocalique à part, bien des exemples certains de *-iñ* transcrit *-i* (ou *ō*), et même de *-añ* transcrit *-ō*¹⁾. C'est évidemment le même phénomène que nous avons ici, et il n'y a pas de raison de supposer une altération du *ne* tibétain. La transcription n'en est pas moins instructive, car elle tend à nous montrer que, de même que *-añ* donnait *ō*, *-iñ* ne perdait pas non plus purement et simplement sa nasale finale; cette perte semble avoir entraîné, et on aurait presque pu le prévoir, une altération vocalique: *-iñ* aboutissait sans doute non pas à *-i*, mais à *-ē*.

2° 尙綺立熱食通 *Chang-k'i-li-jo-t'an-t'ong* (**Ž'añ-khi-lip-žāñ-tham-thuñ*) (p. 73)²⁾. Le nom tibétain est *Žañ-khri-bžer-lta-mthoñ*. M. Laufer déduit de la transcription chinoise qu'on prononçait, au IX^e siècle, ce nom tibétain sous la forme „*zañ khri že(r)*

1) Cf. *J. A.*, mai-juin 1912, p. 538—539.

2) Je note par *ž* l'initiale des mots actuels des séries *je, jou, juu, eul*, qui répond pratiquement en transcription, sous les Tang, à *z* des langues iranienne et tibétaine, encore qu'il s'y joigne en principe un élément de nasalisation palatale encore mal déterminé. La note de M. Laufer (p. 73, n. 6) sur le caractère 熱 *je* n'est pas justifiée. La forme indiquée par M. Lo Tchen-yu (et que le *T'oung Pao* a reproduite inexactement) est bien une variante archaïque de *je*, déjà connue par l'épigraphie.

tam-thon". Mais ici, comme pour le nom précédent, on voit que le *t* initial de *tser* est parfaitement représenté dans la transcription chinoise. La seule anomalie de la transcription est l'emploi d'un **tham* au lieu de **tam* pour le tibétain *lla-m[thon]*. Le même cas se reproduit, avec l'amuissement du même préfixe, à la p. 75. M. Laufer doit donc avoir raison de supposer (p. 94) que l'amuissement de l'*t* altérerait en quelque manière la prononciation du *t*.

3° 論賴藏弩悉恭 Louen-kia-tsang-nou-si-kong (*Lw'u-k'äp-jän-nu-siä-k'uñ) (p. 74). Le nom tibétain est Blon-rgyal-bzan-dus-kuñ. M. Laufer admet une prononciation tibétaine qui serait pratiquement „Lon-g'al (ou ɣ'al)-zan-dus-kuñ". Mes conclusions sont un peu différentes. Le mot *kia* (**k'äp*) n'a pas de prononciation ancienne à sonore initiale. Nous devrions donc plutôt supposer un assourdissement produit par l'amuissement de l'*r* initial en tibétain. Contrairement à ce que M. Laufer dit ici et p. 87—88, la transcription chinoise suppose en outre que *t* final de *rgyal* ait été muet. Quant à l'ancien *p* de *kia* (**k'äp*), c'est précisément l'amuissement de l'*t*, laissant en réalité *rgyal* à finale vocalique, qui lui permet de se joindre au *bzan* suivant en une prononciation **kyäbzän*, que le chinois a rendue par **k'äp-jän*. La mouillure de **k'äp* répond assez vraisemblablement à une altération vocalique résultant de l'amuissement de l'*t* final de *rgyal*. *Tsang* est bien un ancien **jän*; les Chinois ont donc cru entendre ici le *s* tibétain comme une explosive ¹). La transcription de *d* initial par *n* chinois a de nombreux parallèles sous

1) Toutefois il n'y a rien à tirer à ce sujet des transcriptions de l'époque des Yuan, invoquées par M. Laufer (p. 74, n. 3); la distinction, sous les Yuan, est déjà comme aujourd'hui entre aspirées et non aspirées chinoises; les non aspirées rendent les sonores étrangères; les aspirées rendent les sourdes. L'ancienne distinction des aspirées et sonores chinoises est dès ce moment entièrement bouleversée. Par contre, la transcription sous les Tang de *gyän* par 藏 *tsang* est parfaitement régulière, puisque ce *tsang* est un ancien **cän* et non **jän*.

les T'ang; elle est systématique chez un certain nombre de traducteurs bouddhiques; sans doute est-ce la marque d'une différence entre le *d* des langues d'Asie centrale et le *d* du Chinois ancien. Pour ce qui est de *lwa* = *blon* et de **k'ua* = *kui* (bien que *kui* ne soit pas sûr ici), on peut noter d'une manière générale que les transcriptions chinoises, quand elles ont le choix entre des formes mouillées et non mouillées, choisissent les formes non mouillées pour représenter les mots tibétains à voyelle *o* et les formes mouillées pour les mots tibétains à voyelle *u*.

4° 乞黎蘇龍獵贊 K'i-li-sou-long-lie-tsan (**Khiḍ-le-sul-lāp-can*) (p. 74). C'est le roi bien connu Khri-sroṅ-lde-bcan (ou l'un d'eux s'il y en eut deux de ce nom). Si je cite ce nom, ce n'est pas que je me sépare le moins du monde de M. Laufer à son sujet; je veux seulement signaler que nous avons ici un nouveau cas de la liaison *lde-bcan* en **deb | can*. L'*l* de **lāp* ne représente naturellement pas l'*l* de *lde*, lequel était amui, mais est une transcription du *d*, usuelle à côté de celle par *n* que nous avons vue plus haut. J'ai lu les deux premiers caractères **khiḍ-le* ce qui répond à leur valeur théorique. Mais si 黎 *li* est correct, nous aurions ici un exemple d'une confusion des finales *i* et *e* en Chinois des T'ang. Nous connaissons cette confusion avec des initiales autres que *l*, sans qu'elle s'étende à toutes les initiales (le chinois des T'ang paraît encore séparer nettement *li* et *le*, *mi* et *me*); il faudrait d'autres exemples pour affirmer que la confusion de *li* et *le* était dès ce moment généralisée.

5° 琛尙頗熱窟寧贊 Tch'en-chang-kia-jo-k'ou-ning-tsan. (**T'h'im-ṣaṅ-k'āp-ṣāḍ-khwiḍ-niṅ-tsan*) (p. 74). Le nom tibétain, tel qu'il est reproduit par M. Laufer, est *Mchims-ṣaṅ-rgyal-bzer-khou-ne-bcan*. Nous retrouvons ici plusieurs phénomènes qui ont déjà été

constaté, dans les noms précédents. La transcription *klāp-žād pour *rgyal-bžer* est absolument parallèle de *klāp-jas pour *rgyal-bras*; dans les deux cas, il y a amuïssement du préfixe de *r*, déterminant un assourdissement de l'initiale, et d'autre part amuïssement de l'*l* final, amenant une liaison avec le préfixe initial du mot suivant. Le souvenir du premier nom permet de se demander s'il n'y a pas dans *kho-ne* une erreur pour *khod-ne*. Si *kho* est exact, ce sera là un parallèle pour les transcriptions de *kho-po* que je relèverai plus loin; mais M. Waddell (*loc. laud.*, p. 427) lit ici aussi *khod-ne*, peut-être avec raison. Nous avons déjà vu *niw pour *ne*. La transcription chinoise montre que la prononciation ne devait plus faire la liaison *neb | can de *ne ban*; autrement il eût été facile de transcrire par un mot chinois qui fût un ancien *n'āp. C'est donc ici, s'il y a d'autres raisons d'admettre cette altération, qu'on pourrait faire intervenir la prononciation nasalisée de *ne* que supposait M. Laufer, mais que la transcription *ning*, comme je l'ai dit plus haut, ne suffit pas à établir. Mais une autre solution est possible: *ne* et non *n'āp se justifiera si le mot suivant, est bien, comme le donne M. Waddell (*loc. laud.*, p. 427), non pas *blan*, mais *brtan*.

6° 紕論伽羅篤波屬盧論贊熱土公 P'i-louen-k'ie-lo tou-po Chou-lou Louen-tsan-jo-fou-kong (*Phī-lw'n-g'ia-la tuk-p'a Cuk-lu Lw'n-can-žü-thu-kuñ) (p. 74—75). Le nom tibétain est Phyi-blon bka'-la gtogs-pa Ūg-ro ¹⁾ Blon-bcan-bžer-lto-goñ. Cette transcription offre quelques anomalies, au moins apparentes. La transcription de *bka'* par *g'ā (valeur de transcription: *ga*) supposerait une sonorisation due à l'amuïssement du préfixe. *Lto* est transcrit

1) Je ne comprends pas bien la note 2 de la p. 66 relative à ce nom de Ūg-ro; il semblerait dans le texte que M. Laufer fit de Ūg-ro un nom de pays et dans la note un nom d'homme; cette dernière hypothèse me paraîtrait impossible.

par **thu*; nous avons déjà vu au n° 1 un cas où l'amuïssement du préfixe *t* devant *t* semble avoir provoqué l'aspiration de ce *t*. Reste *gon* transcrit par **kuā*, ce qui est bien surprenant. Sans doute il n'y a guère de mots **guā* et on pourrait à la rigueur supposer que les transpositeurs n'ont pas voulu choisir un des mots à forme mouillée, tels que 共 *kong* (**g'iuā*); mais il faudrait s'assurer que *gon* est bien exact, quoique donné également par M. Waddell; la confusion graphique du *k* et du *g* en tibétain est si facile qu'on ne peut écarter dès à présent l'hypothèse d'une fausse lecture pour *kuā*.

7° 思南紕波琛尙旦熟悉諾市 Sseu-nan p'i-po tch'en-chang-tan-jo-si-no-che (*Si-nam phi-p'wa čhim-žan-tan-žū-šid-nak-ži) (p. 75). Le nom tibétain, tel que le reproduit M. Laufer, est Snam phyi-pa Mčhims-žan-brian-bžer-snağ-čig¹). La transcription est absolument régulière, sauf pour le dernier mot. M. Laufer suppose pour *čig* une prononciation *čī*; cela ne nous tire pas d'affaire, et il doit y avoir pour ce mot une erreur de lecture soit du côté tibétain, soit du côté chinois. M. Waddell lisait *čūā* ou *čā-bā* au lieu de *čig*; M. Parker croyait reconnaître 布 *pu* (**pu*) dans le dernier caractère²).

1) Je garde provisoirement la lecture *snağ* de M. Laufer pour l'avant-dernier mot du tibétain. Mais, comme lui-même l'a d'ailleurs fait remarquer, la planche de Bushell semble bien porter *stog*; s'est également *stog* qui a été lu par M. Waddell. M. Laufer s'est décidé pour *snağ* parce qu'on ne connaît pas de prononciation **čā* de 諾 *no* (**noč*). Ceci est vrai. Mais d'autre part **šid-tā* pour *stog* se justifierait mieux, au point de vue des habitudes des transcriptions chinoises, que **šid-nak* pour *snağ*. La question reste ouverte.

2) En réalité, le déchiffrement de M. Lo-Tchen-ye porte non pas 市 *čē* comme le donne M. Laufer, mais 市 *ču* (**čap*, faussement indiqué comme *čow* au lieu de *čep* dans les deux éditions du dictionnaire de Giles). On sait combien il est facile de confondre *e* et *i* en écriture tibétaine; d'autre part, il suffit de ne pas mettre un point (ici purement hypothétique) au milieu du groupe pour avoir *čuā* au lieu de *čā-bā* de M. Waddell; il me paraît donc bien probable que le dernier mot tibétain soit *čuā*.

8° 岸奔猛蘇戶屬勃羅末論矩立藏 ○ 摩
 Ngan-pen mong-sou hou-chou p'o-lo-mo-louen-kiu-li-tsang-○-
 mo (*Nan-pwin mān-su γu-čuk bwɛ̃-lu-mʷaɛ̃-lw'n-k'iu-lip-jaŋ-○-mʷa)
 (p. 75—77). Le nom tibétain, tel que le donne M. Laufer, est
 Mñan pōn ¹⁾ baŋ so o-čog gī blo 'bal Blon-kru-bzaŋ-gyes-rma. Pour
 ce qui est de *mān transcrivant *baŋ*, nous savons que sous les
 T'ang, dans la Chine du Nord, toute une série de mots à initiale
 théorique *m* se prononçaient en réalité avec *l* ou *β* initial. La trans-
 cription *γu-čuk pour *o-čog* est aussi précise qu'instructive; une fois
 de plus, nous avons ici une valeur *o* pour ce que nous avons con-
 sidéré provisoirement, dans les mots non mouillés ni yodisés, comme
 des *a* (en finale vocalique ou gutturale) ou des *a* (en finale dentale);
 peut-être serons-nous amenés, malgré les systèmes des tables chi-
 noises, à transcrire l'élément vocalique de cette série par *o*. Notre
 γ est un peu trompeur. En réalité, il ne s'agit pas d'un γain (c'est-
 à-dire de la sonore de γ), mais de la sonore de λ; c'est ce qui
 explique que des mots à ancienne initiale γ soient souvent employés
 pour rendre les initiales vocaliques des langues d'Asie centrale où
 toute voyelle initiale était ou paraissait précédée d'une sorte d'esprit;
 les transcriptions chinoises de mots turcs en offrent des exemples
 nombreux. La particule du génitif *gi*, faisant suite à une finale en
g, ne serait pas transcrite en chinois. Il y a certainement une inexac-
 titude dans *bwɛ̃-lu en face du tibétain *blo*. La forme tibétaine paraît
 exacte, puisque *bwɛ̃ suppose une voyelle *o*; mais alors il faut un
 second caractère à voyelle *n* (*o*), du type de 盧 *lon* (*lu, peut-être
 *lo), pour qu'on ait *bwɛ̃-lu (sensiblement *boɛ̃-lo) = *blo*: 羅 *lo*

1) Mais, d'un passage de la p. 86, il semblerait résulter que M. Laufer lût ici *mān-
 dpon*; je suppose que *mān-dpon* est une première lecture maintenue à la p. 86 par inad-
 vertance.

(**la*) est en principe inadmissible. M. Waddell (p. 428) lit *bla* et non *blo*; j'inclinerais à croire que c'est là la leçon exacte, et à supposer une erreur de lecture 勃 *p'o* pour un mot de la série 劫 *kie* (**k'ap*); **k'äp* (ou un mot du même ordre) + *la* représenterait le génitif *yî* (autrement non transcrit) + *bla*. **M'aä* est une transcription très régulière de *bal*. Le cas de **k'u-lip-jañ* pour *kru-bzan* est intéressant. Tout comme au n° 3, nous avons ici le *z* de *bzan* rendu par l'explosive *j* de **jañ*. Le *b* initial du mot forme groupe avec la finale vocalique du mot précédent; les Chinois avaient donc à rendre *kru-bzan*, qu'ils entendaient **kru^b | zan*. C'est le **kru^b* qui est représenté par **k'u-lip*. La voyelle *u* de l'ensemble est attestée par **k'u*. Si on a ensuite **lip* et non **lup*, cela tient à une particularité du registre phonétique du chinois ancien: le chinois ancien n'avait pas de mots qui comportassent à la fois une voyelle labiale et une consonne finale labiale, que cette consonne dût être une nasale ou une implosive. En d'autres termes, le chinois ancien avait **luk* et **lu³*, mais non **lup*. Si on voulait rendre la finale labiale d'un groupe **kru^b*, il fallait donc sacrifier la voyelle et recourir à **lip* ou **lup*; c'est ce qu'on a fait ici. M. Laufer lit les deux derniers mots tibétains *gyes-rma*, et rejette par suite la lecture 名 *ming* indiquée par M. Lo Tchen-yu pour l'avant-dernier caractère chinois. Mais M. Waddell (p. 428) lit *myes-rma*, et dès lors 名 *ming* (**miä*) est non seulement possible, mais très vraisemblable; c'est là un nouveau cas de prononciation **mä* (peut-être **myä*) résultant de la chute de la nasale gutturale après voyelle palatale.

9° 鵠提勃悉野 Hou-t'i-p'o-si-ye (**ɣw'ä-de-bw'ä-siä-²yä*) (p. 75, 87—88). C'est là, selon le *Sin t'ang chou*, le nom de l'„ancêtre" (祖 *tsou*) des Tibétains. M. Laufer a rapproché la première partie de ce nom du „nom de clan" (姓 *sing*) donné par le *Sin t'ang chou*

à Kbrî-sren-lde-bcan, 戶盧提 *Hou-lou-ti* (*ɣu-lu-de), et d'autre part de *lde* dans le nom d'O-lde-spu-rgyal fourni par l'inscription tibétaine de 783 (ou peut-être elle aussi de 822) comme le nom du premier roi légendaire des Tibétains; enfin M. Laufer a pensé que le *ye* final répondait de quelque manière à *rgyal*. Ce sont là des hypothèses que je crois justes¹⁾, et qu'il me paraît possible de préciser. Quand on lit les quelques textes relatifs à ces personnages, on a le sentiment que non seulement le nom de Hou-t'i-p'o-si-ye est voisin de celui d'O-lde-spu-rgyal, mais qu'il lui est identique et qu'il s'agit en réalité d'un même individu. Tel que le nom est donné dans le *Sin t'ang chou*, cette équivalence laisse à désirer, mais nous pouvons peut-être aboutir par un détour. Le *Sin t'ang chou* (chap. 216 上, fol. 1 r^o) donne pour nom de famille aux anciens rois tibétains 勃罕野 P'o-sou-ye (*Bwɨ-swɨ-ŷä), qui ne mène à rien. Mais le *Kieou t'ang chou* (chap. 196 上, 1 r^o) écrivait 宰勃野 Tsai-p'o-ye (*Cai-bwɨ-ŷä). Le mot 宰 *tsai* est en effet une forme archaïque de 宰 *tsai*, mais pratiquement inusitée, surtout dans les textes historiques; il est évident que nous avons ici un exemple de l'emploi à peu près indifférent sous les T'ang des clefs 40 et 116 et qu'il faut lire *son* (*swɨ) comme dans le *Sin t'ang chou*. Maintenant quelle est la forme correcte, *Bwɨ-swɨ-ŷä ou *Swɨ-bwɨ-ŷä. Deux considérations doivent intervenir. La forme *son-p'o* est plus probable que la forme *p'o-son* 1^o parce que *p'o-son* est une vieille expression de la

1) Il faut par contre rejeter absolument l'équivalence 鶻 *hou* (*ɣwɨ) = 胡 *hou* (*ɣw) = 𐼁. *gü*, proposée par M. Laufer à la p. 78. Je crois que M. Laufer a raison de considérer le nom tibétain de la carotte, *gü-la-phug*, comme apparenté au nom chinois; seulement cet original chinois doit être non pas 胡蘿蔔 *hou-lo-po*, mais 紅蘿蔔 (*ɣwɨ-la-bwɨ [ou *pɨwɨ ou peut-être *phwɨ]). De même que *la-phug* du tibétain répond au chinois *lo-po* (dont l'histoire est d'ailleurs obscure), les Mongols ont le même mot, certainement emprunté mais altéré, sous la forme *lobang*. Sur *lo-po*, cf. déjà Watters, *Essays on the Chinese language*, p. 332; von Zach, *Lexicographische Beiträge*, I, p. 43.

littérature chinoise et qu'ainsi des copistes, l'ayant dans l'esprit, étaient facilement amenés à renverser en sa faveur une transcription primitive *son-p'o*; 2^o parce que ce caractère *son* n'apparaît pratiquement en transcription que comme le premier élément d'un groupe consonantique, en particulier dans les transcriptions savantes du mot *stüpa*. On pourrait bien se demander, s'il s'est agi d'une explosive labiale précédée de *s*, pourquoi on n'a pas obéi à l'habitude qui veut que la consonne finale du premier groupe soit de la même nature que la consonne initiale du second; mais c'est qu'ici encore il s'agissait d'une implosive labiale pour un mot à voyelle labiale; il fallait donc modifier soit la consonne, soit le timbre de la voyelle; dans les transcriptions où le mot perdait en réalité sa voyelle et sa finale pour ne garder que sa consonne initiale dans la transcription d'un groupe consonantique, la finale se sacrifiait d'ailleurs aisément; enfin on recourait volontiers pour cet usage à des mots à finale dentale (spiraute, ou même à liquide) qui avaient une prononciation moins appuyée que les finales gutturale ou labiale. Pratiquement, nous pouvons donc considérer comme certain qu'il faut adopter la forme du *Kieon l'ang chow* et lire **Swi³-bwi³-yā*, qui représentera un mot ayant pour initiale *sbu*^o (ou *sbo*^o). Mais on a vu plus haut, aux numéros 3 et 5 que le mot *rgyal* se prononçait en fait avec une finale *°yā* et non *°yal*. Notre **Swi³-bwi³-yā* aura par suite toute chance de représenter un original **Sbu-rgyal*, devenu pratiquement **Sbur | gyā*. Peut-être est-ce là aussi, plutôt que le *Bod-rgyal* auquel songe M. Laufer, le titre de 弗夜 *fou-ye* (**pu³-yā*) attribué au roi Sron-bcan, représenté ici sous une forme dialectale à *s* amuie et à initiale secondaire sourde. Mais alors notre *Sbu-rgyal* paraît difficilement séparable du *Spu-rgyal* de l'inscription de 783. Ou bien M. Waddell, qui édite l'inscription d'après une copie manuscrite, s'est

laissé influencer par le *Spu-de-guā-rgyal* du *rGyal rabs* tibétain, ou bien sa copie contient une confusion facile en tibétain entre *p* et *b*, ou enfin deux formes à sourde et à sonore auraient coexisté; mais en tout cas, il doit bien s'agir du même „nom” ou du même „titre”. Or c'est le même *Sin t'ang chon* qui a renversé les mots *Sou-p'o-ye* en *P'o-sou-ye* qui nous fournit le nom de *Hou-t'i-p'o-si-ya*. Il semble bien que la même faute se soit introduite ici dans le texte. Il suffit de lire *Hou-t'i-si-p'o-ye* (**γwɔ̃-de-siɔ̃-bwɔ̃-yä*) pour que nous ayons une transcription exacte d'*O-lde-sbu-rgyal*, prononcé **Ol | de-sbur | gyä*, avec la même forme sonore *sbu*, au lieu du *spu* de M. WADDELL, que nous avons déjà constatée dans la transcription isolée de *Sbu-rgyal*. Si ces conclusions se vérifient, ce ne sera pas un avantage négligeable de pouvoir ainsi relier, pour la plus ancienne histoire du royaume tibétain, les formes des histoires chinoises à celles que les trop rares documents indigènes commencent à nous fournir.

10^e [給事中]勃○伽論悉諾熱合軋 [KI-che-tchong] *p'o-○-k'ie-louen si-no-jo-ho-ya* (**bwɔ̃-○-g'ä-lwɔ̃n siɔ̃-nak-ɕüɔ̃-γap-aɔ̃*) (p. 77). M. Laufer a en tibétain: *Bka'i-phrin-blon ḥ'en ka' blon snag bzer ha ñen*. Les équivalences ne sont guère satisfaisantes. Au titre chinois de *ki-che-tchong* paraît correspondre le *ḥka'i-phrin-blon* du tibétain, dont M. Laufer signale un autre exemple dans le *dPag baam ljon bran*. Le mot suivant *chen*, „grand”, pourrait être à la rigueur rattaché à ce titre; mais je ne suis pas convaincu que la lecture soit exacte, car on n'a alors aucun équivalent pour la transcription chinoise **bwɔ̃* + ○. Comme le fait remarquer M. Laufer, *ka'* est pour *ḥka'*; nous avons déjà vu plus haut un exemple (n^o 6) de *ḥka'* rendu par un mot à sonore initiale, sans doute résultant de l'amuïssement du *b*. *Snag* (ou *stag*) et *bzer* nous sont déjà connus. Reste *ho-yu* qui ne peut répondre à *ha ñen*. M.

Laufer lit *yen* au lieu de *ya*; c'est en effet une prononciation subsidiaire de ce caractère. Mais il est très possible qu'au lieu de *yen* ou *ya*, l'original ait la forme 軌 de 乾 *k'ien* (ou *kan*), usuelle sous les T'ang. Les prononciations anciennes de *k'ien* ou *kan* sont **g'iän* et **kan*. Si la voyelle du dernier mot tibétain est bien *e*, il faudra se prononcer ici en faveur de **g'iän*. D'autre part, le *p* final de **yap* ne peut provenir que de la soudure à l'initiale *b* du mot suivant. M. Waddell a donc sûrement raison quand il croit reconnaître (p. 428) un *b* après *ka*. Dans ce nom, comme partout où M. Laufer lit *snag*, M. Waddell a *stag* (cf. *supra*, p. 8, n° 1).

11° 論悉答熱 Louen si ta jo (Lw'n-siä-tap-zä) (p. 77). M. Laufer a rétabli ce nom, donné dans le *Sin l'ang chou*, en Blon stag rje. C'est, à mon sens, impossible, et l'original devait être quelque chose comme Blon-stab-bzer ou Blon-sta-bzer.

12° 資思波折通額論悉 ○ 昔幹窟 Tseu-sseu-po-tchö-pou ngo louen si-○ si-kan-k'ou (*Ci-si-p'wa čäd-pu nak siä-○ sik-kan-khwä), (p. 77). La forme tibétaine, lue par M. Laufer, est Reis-pa chen-po ○ blon-stag-zigs-rgan-khod. Le début de la transcription est très clair. La même transcription *čäd-pu pour *chen-po* a été signalée par M. Laufer (p. 28) dans le titre de 鉢折通 po-tchö-pou (*pad-čäd-pu) qu'il a rétabli en 'ba-chen-po, mais qui me paraît avoir plus de chances d'être *dpañ-chen-po*, „le grand fortuné”¹⁾. Les titulatures ministérielles reproduites dans le *Sin l'ang chou* orthographient 掣通 tch'ö-pou (čhäd-pu). On sait que

1) Je laisse le texte tel que je l'avais écrit. Mais j'ajoute que *dpañ-chen-po* me paraît confirmé par la présence, en tête des témoins qui ont juré le traité déchiffré en 1911 par M. Waddell, d'un personnage portant le titre de *dpañ-chen-po*, qui a été pris pour un nom (cf. Waddell, dans *J. R. A. S.*, 1911, p. 426). Sur ce titre, ainsi orthographié 鉢闍通 po-tch'au-pou (*pad-čh'au-pu), cf. *Kien l'ang chou*, chap. 196 F, fol. 11 r°; *Sin l'ang chou*, chap. 216 F, fol. 3 r°, 6 v°.

la vraie forme du mot „grand” est *che*. Un exemple douteux a été signalé au n^o 5 d'une transcription **khwā* pour *khou*; si elle se confirmait il n'y aura qu'à admettre simplement l'équivalence **čā*-*pu* ou **čhā*-*pu* = *chen-po*. Au cas contraire (qui est plus probable), il n'est pas impossible que nos transcriptions représentent une prononciation **cher-po*. M. Laufer a proposé pour le mot effacé sur l'inscription tibétaine, et qui correspond à *ngo*, le nom de clan *raog*; mais la prononciation ancienne de *ngo* est **nak*, ce qui rend cette équivalence à peu près impossible. Pour le mot chinois manquant après *si*, le 答 *ta* (**lap*) auquel avait songé M. Laufer est exclu. J'inclinerais à croire qu'ici, comme plus haut, il faut lire *suag* ou *slag*; le mot à restituer serait alors 諾 *no* (**nak*). Si (**sik*) pour *zigs* est une anomalie inexplicable. Il n'y a aucune raison pour transcrire *han* au lieu de *khan* comme le fait M. Laufer; le mot n'a jamais eu de prononciation à initiale sonore; ou bien il faut admettre une sonorisation du tibétain (résultant de l'amuïssement du *r*²), ou bien il y a une lecture inexacte *ryun* pour *chan*; autrement, la transcription est aberrante.

13^o 紕論沒盧尙 〇〇〇 P'i-louen-mo-lou-chang 〇〇〇 (*Phylw'n-mwā-lu-žan 〇〇〇) (p. 78). Pour ces caractères, seuls déchiffrables, le tibétain porte Phyi-blon 'bro-žan 〇〇〇. La transcription est des plus régulières.

14^o 論結研歷贊 Louen-kie-yen-li-tsan (*Lw'n-k'ā-ān-līk-can) (p. 78). M. Laufer donne comme forme tibétaine Blon-rgyud-nan-li-bean. L'équivalence *rgyud*: **k'ā* est difficile à admettre. Quant à **lik-can* en face de *li-bean*, c'est bien invraisemblable. Les lectures de M. Waddell, žan-blon-rgyal-on-lam-btsan, ne paraissent pas non plus très sûres.

15^o 將軍谷 Tsiang-kiun-kou (*Č'an-k'un-kuk [et 'yuk]).

C'est là un nom de lieu; cette „Vallée du général” était sous les T'ang à la frontière de la Chine et du Tibet. M. Lanfer croit retrouver ce nom chinois transcrit *Sce-žun-čeg* (ou *Sce-žun-cheg*) dans l'inscription de 822. Mais il y a là une assez grosse inexactitude, et qui rend à peu près caduques les considérations des pages 79—80 dérivées de cette équivalence. Phonétiquement, les deux noms ne pouvant être ramenés l'un à l'autre. Le *Sce-žun-čeg* (peut-être mal lu pour *Sve-žun-cheg*) est en réalité non pas le *Tsiang-kiun-kou*, mais la „Suiyung barrier”, ou 綏戎柵 *Souei-jong-ts'eu* (**Svi-žun-ch'ak*), de Bushell (*J. R. A. S.*, 1880, p. 537); *čeg* (ou *cheg* ?), comme l'a déjà signalé M. Waddell (*J. R. A. S.*, 1911, p. 396), n'est autre que le mot 柵 *ts'ha* (**ch'āk*), celui-là même que Bushell a traduit par „barrier”. Les deux noms apparaissent d'ailleurs côte à côte dans l'inscription de 822 (cf. Waddell, *ibid.*, p. 396); mais l'un d'entre eux n'a été reconnu qu'incomplètement. Avant de nommer le „*Sce-žun-čeg*”, l'inscription dit, selon M. Waddell, que les chevaux „will be changed below Chang-kun [? pass]”. N'ayant pas d'estampage à ma disposition, je ne puis affirmer qu'il faille lire, au lieu du *Cañ-kun* („Chang-kun”) que donne ici M. Waddell, le *Cañ-cun* que porte en réalité son texte en tibétain (p. 420, l. 42); toutefois, c'est cette seconde forme qui est seule justifiée au point de vue de la phonétique chinoise. Mais surtout, on voit que le mot „passe” est ajouté par M. Waddell pour suppléer à l'absence d'un équivalent de *kou* dans le texte tibétain. Or, si nous nous reportons ici encore à son édition du texte en caractères tibétains (p. 420, l. 42—43), nous voyons que *Cañ-kun* est suivi d'un mot *yog*, et c'est ce mot *yog* que M. Waddell a traduit par „below” parce qu'il l'a supposé équivalent au moderne *og*. Mais il n'y a pas de doute que *yog* fait partie du nom; *Cañ-kun-yog-du* signifie „à [ou au] *Cañ-kun-yog*”. Quant à l'équivalence de 谷 *kou*

et de *yog*, il est possible de la justifier. Le mot 谷 *lou-a*, même de nos jours, une prononciation subsidiaire *yu*, où il est l'équivalent de 峪 *yu* (**yuk*); les deux mots sont d'ailleurs synonymes et étymologiquement apparentés. Or, sous les T'ang, la Chine du Kan-sou lisait certainement 谷 **yuk* et non **kuk*; c'est ainsi qu'a pu naître dans cette région l'orthographe du nom des T'ou-yu-houan, où 谷 se lit bien *yu* (**yuk*) et non *kou*; de même, les caractères *yu* et *kou* se sont employés longtemps presque indifféremment pour écrire le nom de la passe de Kia-yu-kouan à l'ouest de Sou-tcheou. C'est la même prononciation qu'ont naturellement connue alors les Tibétains, et il n'y a pas à nous étonner de voir Tsiang-kiun-kou transcrit de façon certaine par Can-kun-yog ¹⁾.

16° 悉編掣逋 *Si-pien-tch'ô-pou* (**siâ-p'ian-čhââ-pu*) (p. 82). M. Laufer rétablit ce titre en *srîd-dpon-čhe-po*, mais la voyelle du second mot est inadmissible.

17° 農力熱 *nong-li-jo* (**nuñ-lik-žäâ*) (p. 82—83). Est indiqué par le *Sin f'ang chou* comme l'équivalent du chinois 耶 *lang*, „personne de qualité". M. Laufer a rétabli *luñ ri rje*, „seigneur des vallées et des montagnes". L'ancienne finale de *li* (**lik*) n'autorise pas cette restitution. Selon toute vraisemblance, les deux derniers mots sont *rîgs-bler*, le mot *rîgs* signifiant „lignée", „famille".

18° 囊論覓零逋 *nang-louen mi-ling-pou* (**nañ-lw'n-mik-*

1) Ce nom de „Vallée du général" ne s'est pas retrouvé dans les histoires des T'ang. Mais peut-être était-ce là un nom local chinois, adopté par les Tibétains, et qui a pu survivre. Le vocabulaire tibétain incorporé au 9^e *tsi*, fasc. 5, du *Long wei pi chou* (fol. 100 r^o) porte comme nom tibétain de 臨洮 *Lin-t'ao* une forme *Śrîh-kan*, transcrit 盛棍 *Cheng-kouen*, qui pourrait être, sous toutes réserves, altérée de l'ancien *tsiang-kiaa*. On sait que dans une transcription du type *śrîh*, l'*r*, est depuis longtemps un pur artifice orthographique; c'est ainsi que le titre de *yu-ki*, bien loin d'être tiré, comme le veut le dictionnaire de M. Sarat Chandra Das, d'un sanscrit *gauri* ou *gauri*, est la simple transcription du chinois 國師 *kouo-che*, „maître royal".

liù-pu) (p. 83). C'est le titre des vice-ministres tibétains. Le sens semble donner raison à M. Laufer qui rétablit *nan-blou-bris-po*, *nan-blou* étant sûrement le titre des ministres, et *bris-po* signifiant „médius“, entre le „grand ministre“ et le „petit ministre“. Si je relève cependant cette forme, c'est à cause de l'anomalie, inexplicable actuellement, d'une ancienne finale en *k* dans **mik-lü*; l'assimilation se fait plutôt avec des finales de série identique au mot suivant, ou éventuellement avec *ä*.

19° 吐蕃 T'ou-fan (*Thu-p*an). Telle est, sous les T'ang, l'orthographe officielle du nom des Tibétains. M. Laufer revient à deux reprises (p. 86—87 et 95—96) sur l'origine de cette appellation, et il me semble qu'il s'est produit à ce sujet des confusions qu'il faut tenter de dissiper. Au commencement du XIX^e siècle, alors qu'on ne savait rien de l'ancienne phonétique du Chinois, Abel Rémusat remarqua que la phonétique de *fan* entraînait dans des caractères qui, composés avec d'autres clefs, se prononçaient *po*; il supposa alors une prononciation subsidiaire *po* de *fan*, et obtint ainsi T'ou-po qu'il considéra comme une transcription satisfaisante du nom même du Tibet. Tout le monde dès lors, et jusqu'à Bretschneider et Bushell, jusqu'à MM. Rockhill, Chavannes, Kynner et Laufer, paraît avoir admis sans autre examen que la prononciation correcte de T'ou-fan était T'ou-po. Or les dictionnaires chinois ne soufflent pas mot d'une prononciation *po* de *fan*; le lexique phonétique spécial qui suit le *Sin t'ang chou* est également muet à ce sujet. J'ajouterai que, même si on admettait cette prononciation si hypothétique, le gain serait mince. Le nom indigène du Tibet est Bod, et c'est Bod qu'on a voulu retrouver dans la seconde partie de T'ou-fan en le lisant *T'ou-po. Mais il faudrait au moins pour cela que ce **po* pût être un ancien **bod*. Or tous les mots à pho-

nétique 番 *fan* qui se prononcent sans *a* final (c'est-à-dire *po* ou *p'o*) sont à ancienne sourde initiale; à l'exception de 番 *p'o*, qui était à sonore initiale. Admettons même que le cas unique de *p'o* puisse être invoqué: il n'en restera pas moins que tous ces mots, y compris *p'o*, sont à ancienne finale vocalique, c'est-à-dire qu'on aura bien **p^{wa}* et **b^{wa}*, mais dans aucun cas ni le timbre vocalique de Bod, ni sa finale consonantique ¹⁾. Je crois donc qu'on doit garder en principe la prononciation T'ou-fan (**Thu-p^{wa}*an), en admettant seulement que, sous l'influence du *yod*, *p^{wa}* avait pu, dès l'époque des T'ang, passer à *f*.

Maintenant qu'elle est l'origine de T'ou-fan? Dès l'époque des T'ang, les Chinois ne le savaient plus bien. Les écrivains de cette époque confessaient parfois tout simplement leur ignorance; le *Sin tang chou* admet au contraire que T'ou-fan est altéré du nom de famille 秃髮 T'ou-fa (**Thuk-p^{wa}*añ), porté au VI^e siècle par des gens d'origine non chinoise, et peut-être de race tibétaine, qui occupaient le Kan-sou occidental. M. Laufer écarte ce nom, qui, dit-il, n'a rien à voir avec Bod, ni avec les formes hypothétiques **Svod-bod* ou **Mibe-bod* par lesquelles on a tenté d'expliquer plus complètement T'ou-fan ou **T'ou-po*. Enfin, toujours selon M. Laufer, il n'y a pas à faire intervenir le nom de Tobbat ou Tibbat, etc., des écrivains musulmans, car l'écriture arabe n'écrit pas les voyelles, et tout ce qu'on en peut déduire, c'est qu'un nom Tbt pour le Tibet

1) Dans certains cas, il semble que la voyelle *a*, sous l'influence de la semi-voyelle labiale précédente, ait de bonne heure sonné *d*, et ait pu transcrire *a* ou être transcrit par lui; ce sera le cas régulier plus tard, au XIII^e et au XIV^e siècle. Mais pour que semblable phénomène se produisît sous les T'ang, tous les exemples que je connais (au particulier le *tég-rtse* cité par M. Laufer à la p. 79 et qui est le chinois 桌子 *tcho-tseu*, **crab-tai*) comportent une ancienne finale consonantique et l'absence de mouillure ou de *yod* après l'initiale; ce ne serait pas le cas ici.

existait chez les écrivains musulmans à la fin du sixième siècle (*lieux*: neuvième). Sur ce dernier point, je crois que M. Laufer est trop sceptique. Sans doute les écrivains arabes ont tout brouillé en rattachant l'histoire du Tibet à celle des Ilmyarites, mais il est certain que le nom qu'ils donnent (en tenant compte éventuellement de l'absence de *p* en arabe) est celui-là même sous lequel le Tibet fut alors connu dans le monde turc: nous en avons pour preuve plusieurs passages des inscriptions de l'Orkhon, où le Tibet est toujours désigné sous le nom de Tūpūt (ou Tūpōt, Tōpūt, Töpōt). D'une façon quelconque, il semble bien que ce nom soit à rapprocher du chinois T'ou-fan (Thu-p'w'an), sans qu'il soit pour cela nécessaire de le lire *T'ou-po (*Thu-p'wa ou *Thu-b'wa). Mais une dernière forme doit intervenir. Dans un vocabulaire sino-tibétain de la fin du X^e siècle et qui provient de Touen-houang, j'ai déjà signalé ¹⁾ qu'on trouvait, comme correspondant du Bod tibétain, 特番 T'ô-fan (*Dak-p'w'an). Il semble que par là nous nous rapprochions du T'ou-fa (*Thuk-p'w'ad) du *Sin t'ang chow*. Peut-être après tout *Thuk-p'w'ad, Thu-p'w'an, Tūpūt et Tibet ne sont-ils qu'autant de formes d'un même nom, mais qu'il paraît jusqu'ici prématuré de vouloir ramener à Bod, nom indigène du Tibet ²⁾.

20° 喇叭 *la-pa*, „trompette“. Ce mot n'est pas tibétain, et en chinois il est moderne. Si je le cite ici, c'est qu'il est possible de compléter les indications que M. Laufer fournit à son sujet (p. 90).

1) *J. A.*, nov.-déc. 1912, p. 523.

2) L'ancienne gutturale à la fin du premier caractère chinois ne peut guère être fautive dans T'ô-fan, car le vocabulaire a été dressé par quelqu'un qui avait assurément bien le tibétain. Mais c'était sans doute quelqu'un du Kao-sou; il peut s'agir de prononciations dialectales. On sait qu'au XVIII^e siècle, dans des conditions d'ailleurs différentes, on trouve une orthographe Nechal ou Nekpal pour le nom du Népal (cf. S. Lévi, *Le Népal*, à l'index); des raisons très diverses, des usages de prononciation en général, font facilement naître de telles divergences.

Il est parfaitement exact que le mot *rapai* donné comme étymologie mongole de *la-pa* dans la première édition du dictionnaire de Giles est un barbarisme impossible (le mongol n'a pas d'*r* initial et il n'a pas de *p*) et que le mandchou *labai* indiqué dans la deuxième édition, bien loin d'être à l'origine du mot chinois, en a été lui-même emprunté. Mais il n'est par absolument exact de dire que „*la-pa* n'est ni mongol ni tibétain”. En réalité, c'est des Mongols que les Chinois l'ont pris dans les temps modernes. La forme originale mongole est *labai*, qui désigne en effet la trompette que les Chinois appellent *la-pa*, mais dont le sens propre est „conque”, passé au sens de trompette parce qu'on se servait des conques comme d'instruments de musique ¹⁾. Quant à ce mot *labai*, comme il s'agissait d'un instrument de musique fréquemment mentionné dans les textes bouddhiques, les Mongols l'ont reçu de ceux qui furent leurs premiers éducateurs bouddhiques, c'est-à-dire des Turcs. Le mot *labai* (*labay*) est en effet attesté en ouïgour, dans un passage du *Savarṇaprabhāṣa* où il répond au chinois 螺 *lo*, „conque” ²⁾. Enfin l'étymologie même de *labay* est certaine. Le nom populaire des conques et des cauries en Chine sous les T'ang, c'est-à-dire de tous les céphalopodes à coquille en spirale, était 螺貝 *lo-pai* (**l'a-pai*) ³⁾.

1) M. Courant (*Essai historique sur la musique classique des Chinois*, p. 158), sur la foi de M. Blochet, a songé à rapprocher *la-pa* du persan „*labak*”; mais je ne crois pas qu'il y ait aucun mot persan *labak* ayant le sens de trompette ou d'un objet quelconque analogue à la trompette.

2) Cf. F. W. K. Müller, *Uigurica*, I, p. 22.

3) Même de nos jours, et malgré la prononciation *pei*, la rime de ce *pai* est 泰 *l'ai*. Pour *lo-pai* au sens d'instrument de musique (en fait, de conque) usité en Asie centrale sous les Tang, cf. le *P'ei wen yün fow*, chap. 63, fol. 83 v°. Au sens de caurie, *lo-pai* est fréquent dans les œuvres du bouddhisme chinois; comme exemple, je puis renvoyer au *Tripit.* de Kyoto, XIV, vii, 331 v°. Sur la conque, instrument de musique, sous les Tang, cf. Hirth, *Chines. Antiquitäten über Bronze-trommeln*, p. 18; y ajouter *Tsang p'ian tou yü*, chap. 1, fol. 5 v°.

Le ture ouïgour n'avait pas de *p* médian dans les mots indigènes et l'a très vite supprimé dans les mots d'emprunt (c'est ainsi que *supuryan*, qui primitivement a dû venir de l'Iran, a passé très vite à *suburyan*). Il n'y a pas de doute que *labai* soit simplement le chinois **lwa-pai*, emprunté primitivement au sens de coque, mais qui, ayant acquis ensuite le sens subsidiaire de trompette, n'a pas été reconnu par les Chinois, et leur est revenu sous la forme nouvelle *la-pa*¹⁾; il s'en faut que ce soit là un exemple isolé (cf. le titre féminin de 福晉 *fou-tsin*, du mongol et mandchou *fu-jin*, qui est lui-même simplement à l'origine le chinois 夫人 *fou-tien*, etc.).

21° 普魯 *p'ou-lou*, étoffe de laine, tib. *phrug*. Cette équivalence, indiquée par M. Laufer (p. 91), est sûrement exacte, mais on ne peut rien en déduire pour l'amuïssement du *g* final tibétain. Elle a été faite en effet sous les Mongols, c'est-à-dire à une époque où les implosives finales avaient disparu du chinois du Nord. Même une prononciation *phrug* où le *g* eût sonné eût été alors transcrite de la même façon; c'est le cas en particulier pour les transcriptions faites à l'époque mongole des nombreux mots tures et mongols à finale *g* (*x*), *k*, *γ*, *g*.

22° 拂廬 *fou-lou* (**phw'ǝ-l'u*) (p. 92). Les *Histoires des Tang* nous donnent ce mot comme le nom des tentes de feutre chez les Tibétains. M. Laufer a supposé que c'était là le tibétain *šbra*, „tente de feutre". L'équivalence est bonne au point de vue du sens, mais

1) Quant au mot mongol *börig* qui désigne proprement une trompette, lui aussi n'est, comme le suppose M. Laufer (p. 90), un correspondant ture. Il nous est attesté dans le vocabulaire manuscrit sino-ouïgour de l'University College à Londres, sous la forme 卜兒故 *pou-er-lou* (*börig*); j'ai relevé ce mot sur la copie de ce manuscrit exécutée par M. Denison Ross, et qu'il e eu l'amabilité de me communiquer.

paraît phonétiquement inacceptable. Non seulement la voyelle ne va pas, mais l'initiale chinoise est plus qu'une sourde, c'est une sourde aspirée. En fait ce mot 拂 *fou* (**phw'*ʔ), même si le *phw* yodisé n'était pas encore absolument passé à *f*, sert sous les T'ang à rendre *fur-* dans les transcriptions de mots iraniens; il semble absolument exigé que nous ayons un *ph* en tibétain, et la transcription, que nous n'avons aucune raison de considérer comme fautive, doit avoir été faite sur une prononciation **phru*. Reste à savoir si au *śra* du Tibet central a pu répondre jadis, dans le Nord-Est, une forme dialectale **phru*.

23° 掌悉龍臘贊 *So-si-long-lie-tsan* (**Sa-siḥ-luṅ-līp-can*). Il est certain que les quatre derniers caractères représentent *Sron-lde-bean*; mais je ne suis pas sûr que pour le premier il faille préférer à 掌 *so* la variante 婆 *p'o*, et en tout cas je crois impossible que ce *p'o* (**bwa*) représente un tibétain *pho*. Comme le montre M. Laufer (p. 93 et 102), les anciennes transcriptions chinoises 贊普 *tsan-p'u* (**can-phu*) supposent pour le titre du roi du Tibet une forme primitive *bean-pho* d'ailleurs attestée (cf. aussi l'ancien *rygal-pho* que rappelle M. Laufer), et non *bean-po* comme on l'écrit d'ordinaire (la forme 贊婆 *tsan-p'o*, **can-bwa*, de la p. 96, supposerait de son côté un original qui ne serait ni *bean-pho* ni *bean-po*, mais **bean-bu*). Il faut donc renoncer à trouver *pho* en tête de *Sron-lde-bean*, et je ne vois pas pourquoi on rejetterait à priori *so* (**sa*); *Sa-sron-lde-bean* est très admissible. Il est en outre impossible d'admettre une restitution *Pho-sron-śo* pour le nom du roi 勃弄若 *P'o-nong-jo* (**Bwḥ-luṅ-ža*) p. 93 et 105; l'original devait être quelque chose comme *Broṅ-rje* ou moins vraisemblablement *Bod-luṅ-rje*.

24° 陀土度 *T'o-t'ou-tou* (**Da-thu-du*). M. Laufer (p. 95) propose de restituer théoriquement ce nom en **Tho-lto-bdag*; cela me

paraît à peu près inadmissible. Le dernier mot *ton* a bien, à côté de **du*, une prononciation ancienne **dak*, mais en fait c'est toujours comme **du* et non comme **dag* qu'il est attesté jusqu'ici en transcription. D'autre part, la valeur théorique **da* de *l'o* est confirmée par d'innombrables exemples. Je suis d'ailleurs hors d'état de proposer pour **Da-thu-du* une restitution qui ait des chances sérieuses d'exactitude.

25° 欽陵 *K'in-ling* (**Khim-liñ*), nom d'homme, ne peut être le *Dkon-glin* proposé, sous toutes réserves d'ailleurs, par M. Laufer. On songerait plutôt à *Khyim-glin*.

26° 末蒙 *mo-mong* (**m*añ-muñ*), ancien titre tibétain de la reine, ne peut être le *mo-moi* que suppose M. Laufer. L'analogie des autres transcriptions ferait supposer **bal-muñ*.

Enfin il est deux questions assez importantes pour la grammaire comparée des langues sino-tibétaines, et sur lesquelles je voudrais attirer ici l'attention. M. Laufer admet (p. 93—94) — et il n'est pas le premier — que les tons se sont développés dans les langues sino-tibétaines comme les substitués des anciens préfixes que l'évolution phonétique éliminait peu à peu. J'avoue qu'en présence d'un phénomène aussi général dans toute la famille, qu'il s'agisse de chinois, de siamois, de tibétain, de birman ou de lolo, et qui est en même temps si particulier à cette famille, il me semble difficile que le système des tons ne soit pas un des traits primitifs du sino-tibétain. A mon sens, les tons existaient autrefois tout comme les préfixes, mais ils ont survécu à la chute de ces derniers, et nous demeurent ainsi comme des témoins qu'on n'a d'ailleurs à peine commencé d'interroger.

Sur la seconde question, qui est celle même des préfixes, je voudrais au contraire signaler un parallèle qui peut éventuellement confirmer

les hypothèses de M. Laufer. M. Laufer rappelle (p. 99) un travail antérieur où il montrait, entre autres choses, que le préfixe *ś* du tibétain était le préfixe du passé et servait aussi à donner aux verbes le sens actif. Or, une langue nouvelle vient peut-être à l'appui de cette explication. L'épigraphie de la Birmanie nous a rendu de trop rares documents d'une langue dont le déchiffrement est à peine entrepris, mais où M. Blagden, selon toute probabilité, a raison de reconnaître l'ancienne langue des Pyu¹⁾. Cette langue, qui est sûrement du groupe tibéto-birman des langues sino-tibétaines, semble avoir conservé certains archaïsmes que le birman a absolument perdus et qui étaient déjà en voie de disparition à l'époque du tibétain classique. En particulier, dans cette langue qui paraît noter les tons, le passé s'exprime par le préfixe *hi*²⁾ (cf. Blagden, *loc. cit.*, p. 378); sans vouloir encore formuler d'opinion certaine sur un sujet aussi mal connu, il est bien tentant d'identifier ce préfixe au préfixe *ś* des passés tibétains³⁾.

1) Cf. C. O. Blagden, *A preliminary study of the fourth text of the Myazedi inscriptions*, dans *J. R. A. S.*, 1911, p. 366—388.

2) Ces inscriptions en „pyu“ peuvent avoir une grande importance pour l'histoire du bouddhisme transgangeétique. L'alphabet est très archaïque à certains égards. D'autre part, la plupart des mots empruntés aux langues de l'Inde apparaissent sonorisés là où le sanscrit a des sourdes. M. Blagden a supposé ou bien que ces sonotes se prononçaient en réalité en sourdes, ou que la langue avait subi une sorte de sonorisation interne depuis l'époque des emprunts. Ni l'une ni l'autre de ces hypothèses ne me paraît indispensable. Il se peut très bien que les emprunts aient été faits non pas au sanscrit, mais à un de ces dialectes si copieusement sonorisés dont les inscriptions de l'Inde, les manuscrits d'Asie centrale et les transcriptions chinoises archaïques nous attestent l'ancienne expansion. Mais alors, nous gagnerions de remonter assez haut pour le premier apostolat du bouddhisme chez les Pyu. Comme d'autre part les Pyu occupaient à peu près toute la Birmanie, il n'est pas interdit de supposer qu'ils aient été, dès avant notre ère, en relations régulières avec l'Inde, et en relations intermittentes et indirectes, mais réelles, avec la Chine occidentale. Peut-être y aurait-il là une explication de la présence en Bactriane, dans la seconde moitié du II^e siècle avant notre ère, de ces produits que Tchang K'ien reconnaît comme des produits chinois du Sseu-tch'ouan, et où il n'y a pas, à mon sens, de raison suffisante pour voir a priori, contre l'affirmation du voyageur chinois, de simples marchandises de l'Inde.

Au terme de cette étude, je croirais faire injure à mon ami Laufer en disant longuement que mes remarques ne s'inspirent d'aucune intention désobligeante à son endroit. Les travaux de notre confrère valent assez par eux-mêmes pour qu'on n'ait pas besoin de les défendre. Mais les circonstances me permettent de compléter ou de rectifier sur certains points les recherches antérieures; j'ai saisi l'occasion qui m'était offerte. Ce ne sont là d'ailleurs, à bien des égards, que des solutions d'attente. Il faut espérer qu'un jour prochain quelqu'un reprendra en un examen d'ensemble tous les textes d'origine tibétaine ou chinoise qui permettent de reconstituer l'histoire brillante, mais éphémère, de l'ancien empire tibétain.

LES CORRESPONDANTS DE BERTIN.

Secrétaire d'État au XVIII^e siècle,

PAR

HENRI CORDIER. ¹⁾



V.

JAMES HUTTON.

James Hutton, frère morave, était le fils du Rév. John Hutton et d'Elizabeth Ayscough; né à Londres le 3 septembre 1715 il fut présenté en 1737 par John Wesley à Pierre Böhler et à deux autres frères moraves qui se rendaient en Géorgie, et à partir de ce moment, il pencha vers leurs croyances. En 1739 il partit pour l'Allemagne où il visita les Congrégations moraves, et, jusqu'à sa mort, il en resta un membre actif. Hutton peut être considéré comme le fondateur de l'église morave en Angleterre. Il mourut le 3 mai 1795 à Oxsted Cottage, près de Godstone, Surrey, et fut enterré dans le cimetière de la chapelle de Chelsea. On remarquera ses relations avec Benjamin Franklin. Toutes les lettres de lui que nous publions aujourd'hui, écrites en français, sont autographes et signées soit de son nom, soit de son initiale H. Nous en avons respecté le style.

I

Pimlico, ce 21 janvier 1781.

Oui vraiment, Monseigneur, l'intérêt que je prens à votre santé m'est naturel, car la Relation de mon Ame avec celles des Excellens Hommes est décidée, et vous surtout m'ayant en outre tant témoigné des bontés pour moi, je serois perdu si je ne fusse point reconnoissant. Je bénis Dieu du succès des Eaux de Spa, et la misérable guerre dans laquelle nos deux Nations faites pour s'aimer s'en sont

1) Voir *Touray poe*, Mai, Octobre et Décembre 1913, Juillet 1914.

embarquées me fâche doublement à cause de vous, avec lequel j'aurois en la plus grande envie de passer des quart d'heures délicieuses pour moi. Cette guerre est un ouragan pour moi. Votre bon voisin de la campagne l'aimable et l'honnête DIODATI me fit grand plaisir en m'envoyant votre chère lettre du 26 Déc. 1780 et en l'accompagnant d'une des siennes.

Le succès de la Mission à Labradore, quant à la civilisation générale est très grand et toute Nation qui fréquente ces parages en ressentira les effets paisibles. Quant à notre but principal, la conversion au Christianisme, et non à aucune Secte, cela va son train modeste et non bruant. Comme le passeport pour notre vaisseau de charité n'est que pour un an, je vous prie de faire rendre le dernier au Bureau, pour faire voir qu'on ne le garde pas pour s'en servir, mais pour prier d'avoir un semblable pour cette année. Vous verrez que le dernier passeport était si gracieux que rien de plus.

Comme vous vous êtes tant intéressé pour moi dans les autres, je suppose que vous voudrez bien avoir la bonté de continuer et de prier pour moi là dessus.

Un de mes amis MONSIEUR BELL est devenu Sous Secrétaire d'Etat ou premier Commis pour les Affaires Etrangères, Bureau du Sud, le brave Homme qui travailla tant pour le cartel, étant alors Chef du Bureau des Prisonniers et Blessés. Le Chevalier PORTER, le seul homme avec lequel je me suis brouillé, sur les Papiers de la Chine, reste encore au même Bureau, mais dorénavant j'espère d'autre traitement par moi en de Mr. Bell. Je crois que vos amis de la Chine pourroient sans difficulté envoyer les Paquets pour vous sur nos vaisseaux, en les adressant à moi sous couvert ou de Monsieur HOLT, Secrétaire de la Compagnie des Indes, ou sous couvert de Mr. BELL, Under Secretary of State, et si je serois mort mes Exécuteurs testamentaires

les recevront et les expédieront à Paris. Vous aurez la bonté donc de me faire dire si je dois avertir ces deux Messieurs, et à qui on doit adresser les paquets, soit à Bruxelles, soit à Paris pour vous.

Si on aura la Bonté de m'envoyer les Passeports on pourra les adresser de votre Cour à votre Ministre à Bruxelles, mais *en m'avertissant qu'ils sont partis*, alors, nos négociants ici prieront Messrs. ROMBERG de les tirer de votre Ministre, et me les envoyer. Faute de cet avertissement par lettre simple le dernier resta si long tems en vain à Bruxelles.

Je plains les malheurs de l'Humanité aux Isles; que Dieu et les hommes aient pitié des malheureux.

Je ne sçaurois pas vous dire le plaisir que j'avois avec ma nièce à sa campagne dans une retraite paisible avec cette famille si respectée, et leurs dix Eufans. Je viens de retourner en ville, et de prendre la première bonne occasion de vous remercier et de vous assurer de mon dévouement constant. Mes respects s. v. p. à votre Neveu de qui le cher COURT DE GÉBELIN ¹⁾ m'a dit tant de bien.

Vivés heureux mon tant respectable! et croiés que la guerre finie je volerai s'il se peut pour vous remercier. J'envoie celle-ci au cher Diodati pour vous le faire tenir, et je resterai toute ma petite vie votre tant obligé et tant respectueux serviteur.

JAQUES HUTTON.

Le plus court seroit d'envoyer le Passeport adressé à moi, Pimlico, Londres, sans nom du ministre sur le couvert. On pourra l'envoyer à Bruxelles à votre Ministre dans le paquet de la Cour, en le priant de mettre l'incluse pour moi à la Poste à Bruxelles, pour Londres. Ainsi la chose sera la plus promptement entre mes mains, sans autre.

1) *Antoine COURT de GÉBELIN*, né à Nîmes en 1725, auteur du *Monde Primitif*; † 10 mai 1784. — Nous publierons ses lettres à Bertin.

II

30 mars 1781.

Monseigneur,

Je reçus hier au soir par occasion le beau papier que vous avés eu la bonté de me procurer. Le Passeport est si honnête! et si utile et si gracieux que rien de plus.

Si j'oserois je vous prierois de vous charger de mes remerciemens. Vous savés à quel point je vous aime. Si vous avés quelque chose à m'envoyer pour le cher AMIOT, aiés la bonté de me le faire tenir au plutôt. J'aurai dit-on, occasion dans peu. Cela peut être incertain, mais fort probable. Je suis venu en ville exprès pour m'en informer.

Je vous remercie infiniment pour vos bontés sans jamais discontinuer.

J'ai eu très grand plaisir en voyant le Don que l'Académie a fait au cher GESSLIN.

Je vous prie de me continuer encore vos bontés et de croire qu'il n'y a personne presque qui peut avoir plus de respect pour vous, que

Votre tant obligé et si obéissant et très-humble serviteur,

Jaques HURTON.

Pimlico, ce 30 mars 1781.

III

12 juillet 1781.

Monseigneur,

Je viens de recevoir à la campagne de ma nièce à 120 milles de Londres la notice que Mr. COURT de GESSLIN m'a envoyé, sur

le Passeport pour les grains de gazon d'Angl. pour vos jardins et celui de la Reine à Trianon; je ne sçais pas la quantité de dits grains que vous souhaitez, ayés la bonté de me le faire sçavoir, et je vous les enverrai d'abord, et avec Passeport s'il y a besoin que Mylord Stormost me donnera; en tout cas nommés moi quelqu'un à Ostende à qui je pourrai les adresser, où je les ferai passer d'abord que je sçaurai la quantité; et si vous n'avez personne à Ostende de votre connoissance je les ferai expédier à un commissionnaire fidèle qui les fera passer à Paris à vos ordres.

Je souhaite que les eaux de Spa vous soient de grand service, si vous voyez le cher DIDOTI, votre voisin de Chatou, aiés la bonté de lui dire que je n'ai rien reçu de lui depuis bien long tems, et qu'il ait la bonté de me donner de ses nouvelles et du Dr. TRONCHIN ¹⁾.

Vous croiés que presque rien ne me donne tant de plaisir que de vous en faire. Je n'oublierai de ma vie les obligations que je vous ai pour notre Labradore et pour nos Prisonniers.

Je voudrois être utile à vos excellents missionnaires à la Chine et partout où l'Evangile est porté avec désintéressement, où la politique humaine, mauvaise mélange n'entre pour rien, comme j'en suis persuadé quant à la Chine et d'où l'Europe entière puisse tirer les connoissances utiles.

Je tâcherai de vous faire parvenir à Spa, s'il se peut un Exemple de la *Liturgie universelle* et que Mr. Court de Gebelin me prie de vous faire tenir, quoique j'ai fort petite opinion des Empiriques de cet espèce.

1) Théodore TRONCHIN, né à Genève le 24 mai 1709, fils de Jean-Robert Tronchin, banquier; † à Paris, 20 novembre 1781, au Palais Royal. — Cf. *Un Médecin du XVIII^e Siècle* — Théodore Tronchin (1709—1781) d'après des documents inédits par Henry Tronchin... Paris, Plon, 1906, in-8.

Je vous prie Monseigneur de me recommander aux bonnes grâces de votre neveu le C. de MELLET et de me croire pour la vie avec un respectueuse tendresse.

Votre très-humble et très-obéissant serviteur,

Jaques HUTTON.

Ce 12 juillet 1781.

Je ne reçois que dans ce moment la lettre du cher Gebelin.

IV

13 novembre 1781.

Monseigneur, ¹⁾

J'ai différé à témoigner mes félicitations sur ce qui fait tant de plaisir à toute votre nation. Ces bruits fâcheux de la maladie de la mère et du fils m'arrêtaient. A présent que les bruits sont plus favorables j'ose les vous témoigner, je sais que vous en avez été touché. Et moi aussi. Quand les vœux de tout un peuple sont exaucés, il faut être méchant, misérable bigot de ne pas y prendre part. La guerre est un grand mal toujours, mais elle ne doit pas influer à ce point de ne pas voir avec joie son ennemi béni par Dieu, dans des choses qui ne nous font aucun mal.

Notre vaisseau est revenu sain et sauf de Labradore grâce à Dieu. Les Esquimaux toujours paisibles; dans une de nos missions 8 adultes baptisés et quelque 70 Esquimaux ont passés l'hiver près de nos maisons dans une espèce de bon ordre. Dans l'autre mission plus de 120. C'est par ces résidences pendant quelques mois qu'on apprend à les bien connoître; on trouve quelques uns encore fascinés

1) M'en parler.

par leurs Sorciers, sensuels quant aux femmes, et faisant des échanges pour une nuit où comme ça. Cela nous fait gémir et sévir contre tels désordres, et leur refuser, dans ce cas, d'être présent au service divin.

Le chef de nos missions à Labradore m'écrit que quant à la sûreté des missionnaires tout va bien encore nonobstant les reproches qu'on leur fait en cas de désordre.

Dieu soit béni pour le courage et la patience de missionnaire et pour sa divine protection.

Le capitaine du vaisseau rapporte que notre petit vaisseau travaille tant quand la mer est agitée qu'il nous faudra chercher un autre, les vagues passent par dessus le vaisseau qui revient. Ainsi quand on aura trouvé un vaisseau plus convenable on renverra le Passeport et on priera un autre, l'indiquant le nom et port du nouveau vaisseau, et on priera le saint patron Mgr. BERTIN d'avoir la bonté de faire à son ordinaire, qui est, toujours gracieux.

J'ai écrit au comte DIODATI pour le faire sçavoir que je n'ai point reçu le gros Paquet pour la Chine que j'attends de lui.

Je me trouve parfaitement bien quant à la santé d'un vieillard de 66 ans, mais en cas de ma mort mes amis vous adresseront leur requête en mon nom.

Que Dieu vous donne la santé que vos amis vous souhaitent est le vœu de votre infiniment attaché,

et très-obéissant et très-humble serviteur,

Jaques BURTON.

Pimlico, ce 13 novembre 1781.

V

Ce 4 février 1782. 1)

Monseigneur,

Vous me l'êtes à tant de Titres.

L'honneur de votre gracieuse lettre du 24 janvier me parvint le 1 février. Je vous envoie par la Poste la *Liturgie universelle*, étant le seul moyen à qui je me fie car le 24 juillet je vous fis expédier le même livre, mis par le Librairie Elmaley sur le compte de Mr. COURT DE GERLIN. Je ne sçais pas ce qu'il est devenu. Je vous remercie, infiniment comme je le dois pour vos bontés sur Labradore et pour le Passeport que je demanderai en grâce quand je sçaurai exactement la description du nouveau vaisseau. On prétend couper le présent vaisseau au milieu et l'allonger de dix pieds, ce qui le rendra d'autant plus grand et meilleur en mer; augmentera le port, car au moins de 100 tonneaux de port, on n'ose pas charger des Eaux-de-vie pour nos pauvres Missionnaires résidants dans le Climat le plus affreux. Un vaisseau de 90 quelques tonneaux de port, sera confisqué si on trouve des Eaux-de-vie sur son bord, et puis nous faisons porter ce voyage des matériaux pour construire une Eglise et Maison dans un troisième endroit, car toute branche des Esquimaux nous veut. La nouvelle mission sera plus au Sud.

Je suis plus fûché que je ne puis exprimer sur le Paquet manqué de Mr. DIOPATI et je ne le comprend pas. Il ne se souvient pas je crois de rien là-dessus. Si je savois le nom du correspondant à Canton je lui écrirois très volontiers le malheur arrivé. Il n'est pas naturel qu'on eut saisi dans nos ports un Paquet adressé à moi sans me le

1) Monsieur Bertin, Ministre d'Etat, en son Hotel, rue neuve des Capucines, à Paris.

faire savoir. Ainsi je puis espérer que le paquet ne m'a pas été adressé mais à quelqu'autre personne.

L'Honneur de vos commandemens m'est infiniment intéressante.

Je franchis le mot en vous disant que je vous aime de tout mon cœur comme je vous honore, étant de vous.

cher Monseigneur,

le très-humble et très obéissant-serviteur

Jaques HUTTON.

ce 4. février 1782.

P.S. 5 février.

Je tracassois beaucoup hier pour avoir nouvelles de la *Liturgie universelle* expédiée le 24 juillet par Mr. Elmsley, pour aller vous trouver à Spa par moien de Frederic Romberg et fils, de Bruxelles, et la Brochure fut remise à ce Négociant en ville pour la leur faire tenir, mais on ne se souvient plus par qui la Brochure fut portée à Bruxelles. Ainsi je viens de mettre un second exemplaire à votre adresse sur la Poste aujourd'hui, le seul moyen de vous le faire tenir sûrement et promptement.

En même tems j'allais demander chez Messrs. THIELUSSEN et Co., correspondant de Mr. DIODATI des nouvelles du paquet pour la Chine, qui ne savent rien là-dessus; ses gens me disent ne l'avoir jamais reçu.

En cas que vous ayés encore pour la Chine aiés la bonté de l'adresser à Mrs. FREDERIC ROMBERG ET FILS à Bruxelles, les faisant prier par les Banquiers suisses de Paris de me l'envoyer sous couvert de Messrs. RIVIER CRAWLEY et Co. à Londres et mettre la note des frais sur le compte de Messrs. Rivier etc. La maison de Romberg est en relation avec ces dits Messieurs, et ces Messieurs sont mes bons amis.

VI

ce 22 février 1782.

Monseigneur,

J'ai reçu hier une lettre d'un savant d'Allemagne pour Mr. de Luc actuellement à Paris que je souhaiterois de lui faire tenir sans frais, je vous prie de me pardonner la *liberté grande*. Vous sçavez peut-être que Mr. de Luc ¹⁾ est un des sçavants les plus illustres dans son genre, membre correspondant de votre Académie des Sciences. Son fort est la Physique, et son système de la terre célèbre. Il est lecteur de notre Reine; actuellement à Paris et je crois quelque fois chez Mr. de Varennes pour les affaires critiques de Genève, sa Patrie.

Je prendrai occasion de renvoyer les Passeports par notre vaisseau pour Labradore et vous prierai de les faire renouveler.

Nous gardons le même vaisseau, le faisant allonger qui le rendra dit-on meilleur, c'est une opération que je n'entends pas. On le coupe par le milieu et fait dix pieds de neuf, on prétend que cela le rendra plus bruyant. Je l'ignore.

J'avois envie de faire un tour à Paris, si cela m'eût été possible. De vous revoir eût été pour moi un véritable plaisir. Guerre, Guerre! J'avois envie de raisonner sur une façon d'être entre les Nations pour l'avenir, après la Paix, quand elle seroit faite une fois, qui promettroit quelque chose de durable si on pouvoit la trouver; la Rivalité devoit cesser. Rêve de bonhommie! Vous aurez reçu j'es-

1) *Jean André de Luc*, physicien, fils de *Jacques François de Luc*, né à Genève le 8 février 1727; † à Windsor le 7 nov. 1817.

père par la poste la *Liturgie universelle*; Vous sçavés combien je vous suis attaché personnellement comme votre très obéissant-serviteur

Jaques HURON.

VII

Je reçus hier le 18, la lettre de 3 mars 1782 que vous, Monseigneur, avez eu la Bonté de me faire tenir. Je vous remercie d'avoir envoyé à Mr. de Luc le Paquet pour moi. Je viens de recevoir encore une lettre pour lui de l'Allemagne je crois. La petite Poste la lui fera tenir.

Vous aurés reçu de moi il y a quelques jours un Paquet avec les vieux Passeports par le vaisseau de Labradore que vous avés eu la Bonté de m'offrir de les faire renouveler.

Je viens de trouver aujourd'hui même le 19 un exemplaire relié du Dialogue de Lord HERBERT ¹⁾ entre le Tuteur et le Pupille; c'est un in-quarto de 36 feuilles, trop grand pour la Poste, mais j'aurai occasion par quelque Genevois de le vous faire tenir sûrement. Ce m'est dommage au cœur de n'avoir pas pu passer quelques semaines à Paris. J'eusse appris bien des bonnes choses pour l'humanité qu'on pratique si noblement dans cette guerre de votre part. Il me faut absolument finir pour ne pas perdre l'occasion de la Poste d'aujourd'hui, c'est le dernier moment.

J'ai le bonheur de vous être tant
le dévoué HURON.

Ce 19^{me} mars 1782.

1) *Edmond HERBERT*, Premier Lord HERBERT OF CHICHEBURY, né à Hyton-on-Severn, près de Worcester, le 3 mars 1682—3, † 20 août 1648; l'ouvrage auquel il est fait allusion a pour titre: *A Dialogue between a Tutor and a Pupil*, London, 1768, in-4.

VIII

5 mars 1782.¹⁾

Monseigneur,

Je reçus le 2 mars la faveur de votre gracieuse lettre du 18 février.

Je me suis informé par tout pour trouver le livre de TOLLENER, Théologien, sans réussir, si vous pouviez me faire donner le titre avec le nom d'Imprimeur et de l'année, peut-être en trouverois-je le livre, qui est apparemment fort obscur. Je tâcherai de vous faire tenir le livre de HERBERT de CHESBURY qui n'est nullement marqué dans l'histoire littéraire de sa vie, mais que je trouverai je crois sur ce titre, si même ce titre est controuvé. Ce que L. Herbert avoit publié lui même est écrit en latin. Je me donnerai peine de savoir ici, si le dit Livre est traduit en françois, si il est, ce doit être en Hollande. J'espère vous envoyer le livre; Dialogue de Herbert dans une Poste ou deux en anglois, ne le croyant point traduit en françois. Personne ici ne sait rien du nom même de Tollener, qui peut-être est allemand qu'on appelle TOELNER fameux Théologien Saxon, hétérodoxe selon quelques uns.

Je voudrois avoir un modèle du petit canot que les Groenlandois et Esquimaux appellent *Kajak* et même vous en faire tenir une actuelle. On le trouve dans les cabinets publics en tant d'endroits, et décrit dans tous les voyages du nord. La meilleure description se trouve dans notre frère CRANTZ: *Histoire de Greenlande*²⁾. Je

1) Monsieur Bertin.

2) DAV. CRANTZ. — *Historie von Grœnland*, 1765 et 1780.

suppose aussi dans *ERENDE Hist. de Greenlands* ¹⁾ sûrement traduit ou cité dans les Recueils des voyages au Nord.

Je vous envoie ce que Crantz dit la dessus, et la Planche VII répond à la description écrite. J'écrirai pour avoir un modèle comme une poupée et ferai faire pour le voyage après, une réelle.

Je vous envoie ici les deux Passeports que nous avons pour notre vaisseau, priant seulement d'avertir que par un changement cette année le vaisseau sera du port de tonneaux cent ou environs, le même vaisseau, le même nom, le même capitaine avec 7 autres hommes d'équipage, capitaine et 7 hommes sans armes. Je vous ai marqué que nous allongeons de dix pieds le même vaisseau dans l'espérance qu'il ne se baissera tant sur le devant.

Vous aurés la bonté de prier ou faire prier votre Ministre de la Marine et le Docteur FRANKLYN de recevoir les deux passeports que je vous envoie et de vous faire tenir deux autres semblables pour notre vaisseau de charité.

Je voudrois voir Paix universelle et Éternelle.

Je suis avec tout le respect de la tendresse,

Monseigneur,

Votre très-humble et très-obéissant serviteur,

Jaques HUTTON.

P.S. Comme je n'ai aucune relation avec la Hollande, je souhaiterois aussi d'avoir Passeport de la Hollande, que Mr. le Duc de

1) HANS ERENDE. — *Det gamle Grønlands nye Perlestræde*,... Copenhague, 1729, in-4.
— Traduit en français: *Description et Histoire générale du Groenland*, Copenhague et Genève, 1763, in-8. En partie reproduit dans l'*Histoire générale des Voyages* de l'abbé Prévost.

LA VAUGUYON ¹⁾, si Mr. de VERGENNES ²⁾ voudroit s'en intéresser; pourroit peut-être me le faire tenir par vos mains, ou par celles de Mr. de Vergennes.

IX

ce 8 Mars 1782 ³⁾.

Monsieur,

J'ai cherché le livre d'HERBERT de CHESBURY hier, ayant été averti d'un Libraire qu'on disoit le posséder, il ne l'avoit plus. Il avoit été imprimé par un nommé BALHOC qui est mort et ses effets dispersés, je ne discontinuerai pas mes recherches. Ce livre est devenu rare et si je ne me trompe est précédé de sa vie. Vous pouvez vous assurer que je ferai tout ce que je pourrai pour vous le procurer.

Je vous envoyois par le dernier courrier les feuilles de l'Hist. de Greenlande par Crantz relatives au petit vaisseau des Greenlandois et des Esquimaux qui sont exactement les mêmes. Les Greenlandois sont plus adroits que ne sont les Esquimaux. Les Européens n'ont, dit Crantz, pu parvenir à s'en servir de ces petits vaisseaux comme les Greenlandois et Esquimaux, et même ces pauvres gens périssent quelques fois étant renversés et si ils perdent leur aviron périssent, mais si ils gardent l'aviron, ceux qui sont exercés se remettent. Et je renvois les passeports de vaisseau.

Je vous prie de faire tenir par la petite Poste l'incluse à son adresse. Mr. de LUC, si célèbre par son système de la Terre et ses

1) Paul François de QUÉLEN, duc de LAVAUNUYON, né le 30 juillet 1746; Ministre en 1776 auprès des Etats-Généraux des Provinces Unies; † 14 mars 1828.

2) Charles GRAVIER, Comte de VERGENNES, né à Dijon le 28 déc. 1717; † 13 février 1787; Ministre des Affaires étrangères.

3) Mr. Des Voyez, envoyer la lettre à son adresse.

découvertes sur l'air loge chez moi et c'est mon ami intime. C'est un des premiers Physiciens. Je vous ai marqué ce qu'il fait ou voudroit faire à Paris et à Versailles, traiter les affaires critiques de Genève sa Patrie. J'espère que vous excuserés la liberté que je prends de vous envoyer l'incluse. Vous sçavés à quel Point et degré vous est attaché, votre tendrement dévoué HUTTON.

X

26 Mars 1782¹⁾.

La chère votre du 3 Mars me parvint en son tems a qui j'ai répondu. Hier j'ai reçu d'un savant la réponse sur le livre de TOLLENER, que personne ne connoit; aiés la bonté de vous faire donner s. v. p. et si vous pouvés le titre plus exact du livre et le vrai nom de l'auteur, et le lieu où c'étoit imprimé. J'apprends aussi du même savant que le livre du Lord HERBERT, *Dialogue entre le Tuteur et le Pupille* quoique écrit plus de 140 ans n'a été trouvé que dans la Bibliothèque du célèbre Docteur Woodward²⁾ avec une inscription que tel MSS. fut écrit par le Lord Herbert, et ne fut imprimé que 1768 in-quarto, assés incorrectement, plein de savoir, du bon sens et bien écrit à cause de la longueur du tems entre être écrit et publié, il croit que ce livre est bien de L. Herbert. Vous savez apparemment que le Lord Herbert fut notre ambassadeur à Paris et fut brouillé hautement avec le Ministre et Favori (LUXEM) de Louis XIII. J'espère de vous faire tenir le Dialogue de Herbert par quelque Genevois qui passera à Paris dans environs 3 semaines

1) Répondu le 6 avril 1782. Envoyé le texte de l'examen de la doctrine des payens ouvrage qui cite Tollenor.

2) Richard Woodward, évêque de Cloyns, né 1726; † 12 mai 1794.

d'ici. C'est trop grand pour la Poste. J'espère que vous aurez reçu après votre chère lettre écrite le 3 mars les vieux Passeports pour les en faire renouveler, et je vous remercie infiniment cher Monseigneur. Je vous prie de faire servir l'incluse pour Mr. de Loo par la petite poste; il contient une lettre d'un savant allemand et quelques lignes de ma part. A Londres, il loge chez moi.

Vous sçaurés apparemment plutôt que moi ce que c'est de St. Christophe¹⁾; c'est à quoi je ne me mêle point et la Révolution dans notre Ministère²⁾.

Dieu donne paix humble à ses créatures. Je suis avec infiniment du respect et d'attachement pour votre personne,

Monseigneur,

votre très-humble et très-obéissant serviteur,

Jaques HURTON.

XI

A Versailles le 28 mars 1782.³⁾

Prises.

Passeport pour
un bâtiment
destiné aux
Missionnaires
du Labrador.

J'ai reçu, Monsieur, avec la lettre que vous m'avez fait l'honneur de m'écrire le 10 de ce mois le Passeport qui avoit été ci-devant accordé à M. HURTON, Directeur de la Mission du Labrador. J'ai rendu compte au Roi de la demande que vous me faites du renouvellement de ce Passeport et des motifs intéressans qui pouvoient déterminer à accorder cette grâce. SA MAJESTÉ a bien voulu

1) Hoon, manœuvrant contre le Comte de Grasse, rédoisit St. Christophe (13 fév. 1782) qui fut gardé par les Anglais au traité de 1783.

2) Lord North tomba le 20 mars 1782 et fut remplacé le 27 mars 1782 par Lord ROCKINGHAM.

3) Adressé ce passeport à M. HURTON avec celui de M. FRANKLIN le 1^{er} avril 1782.

consentir à ce que ce Passeport fut expédié; j'ai l'honneur de vous l'adresser revêtu de toutes les formalités requises. Recevez mes remerciements des choses obligeantes que vous voulez bien me dire à cet égard.

J'ai l'honneur d'être avec un très-sincère attachement, Monsieur, votre très-humble et très-obéissant serviteur,

CASTRIES. ¹⁾

M. de BERTIN.

XII

Monseigneur,

Voici le livre de Lord HERBERT, écrit, je crois à mauvais dessein, à dessein que j'appelle mauvais dans mon sens, si je ne me trompe. Je n'ai pas eu la patience ni le tems de le lire assez pour décider entièrement, mais les Principes de son fait portent loin. J'ai le malheur ou la faiblesse d'apercevoir vite des aubes du mal, à mon avis. Je prise la Révélation qui mène au bien et au bonheur; je la reçois en enfant et j'y trouve des effets, et il y a plus de sens utile dans une Page du Nouveau Testament et mieux dit, que dans tout le reste de livres; et La Fontaine ne fut pas Bête quand il disoit, ma foi c'est un fort bon livre, qui ne nous fut pas donné pour en tirer des controverses mais pour vivre en sages et heureux. Au reste le livre de L. Herbert quoique plein d'érudition est écrit en ennemi de la Révélation, si je ne me trompe; et le respect qu'il prétend en avoir est prétendu et Persiflage. Voilà ce que je croiois devoir dire en vous l'envoyant, comme je chéris les âmes de mes

1) L. a. — *Charles Eugène Gabriel de la Croix*, maréchal de Castries, né le 25 février 1727, ministre de la Marine depuis 1780; † à Wolfenbützel, le 11 janvier 1801.

mais surtout. J'ai le cœur net et vrai et suis vraiment avec infiniment de respect,

Monseigneur,

Votre tant attaché,

HUTTON.

Ce 2 avril 1782.

XIII

Monsieur,

Dans dix jours d'ici, à peu près, vos gens pourront trouver à la maison de Monsieur FARMONT, rue Quincampoix, à Paris, le livre, *Dialogue de Lord HERBERT*; in-quarto.

Je suis très aise de trouver occasion ainsi de vous le faire tenir. Si ce livre n'arrive pas en dix jours, je crois qu'il ne tardera pas à arriver. Un négociant qui passe le portera. Un bon Genevois a eu l'honnêteté de le faire passer.

J'espère que vous réussirez bientôt de m'envoyer les passeports par la Poste.

J'espère aussi de recevoir également le titre plus exact du livre de TOLLEMER, nom inconnu parmi les sçavants et les libraires d'ici, dans votre première lettre.

Avés vous réussi comme je le souhaite par les Balayeurs des Écuries à faire les Boulingrins à l'Anglaise?

Je m'intéresse à vos Jardins, comme à tout ce que vous pourrez vous fournir d'agréments: quand sera-ce que je les verrai? Dieu le sçait. Je languis véritablement de voir la paix universelle se faire.

Si vous aurés les deux Passeports prêts qui se donneront dans votre voisinage, vous aurés la bonté de ne pas faire attendre ces

deux là! et si on réussit à en avoir de la Hollande après, on aura la bonté de l'envoyer après.

J'ai l'honneur et la très grande satisfaction d'être avec tout l'attachement pour votre personne que vous me connoissés,

Monsieur,

votre très-humble et très-obéissant serviteur,

Jaques HURON.

Pimlico ce 5 avril 1782.

XIV

Paris, le 7 avril 1782.¹⁾

Au moment, Monsieur, où vous recevrez cette lettre les Passeports de France et des Etats-Unis d'Amérique, que je vous ai adressés le 1^{er} de ce mois, vous seront sûrement parvenus, je le désire bien.

Je vous renouvelle toujours avec plaisir mes remerciements des soins et peines que vous vous donnés pour me procurer HERBERT et TOLLENER; je ne puis vous donner sur ce dernier d'autre titre que celui que je vous ai marqué avoir; je l'ai pris dans la citation d'un ouvrage intitulé: „*Esamen de la doctrine touchant le salut des Payens, ou nouvelle apologie pour Socrate par Mr. Jean Auguste Eberhard Ministre à Berlin, traduit de l'Allemand, Amsterdam, 1773.*” TOLLENER est cité à la page 221 de cet ouvrage et l'on y rapporte un passage du texte de son livre intitulé: „*Preuves que Dieu conduit l'homme au salut même par la Révélation de la nature, P. 17. 18. Pag. 91. 93.*” Voilà tous les éclaircissements que je puis vous donner à cet égard.

C'est sur l'énoncé seul que j'ai envis de voir un ouvrage qui

1) Copie.

traitoit une pareille question si conforme au bonheur de l'humanité, et si propre à faire cesser (non pas seulement dans le Christianisme, mais dans toute l'humanité et toutes les Religions) les guerres et les proscriptions, ou mépris respectifs dont s'occupent les opinions religieuses de toute espèce, beaucoup plus que du bonheur des hommes qu'elles promettent pourtant partout.

On m'a dit que les Hermites s'occupoient principalement du travail de l'Agriculture et des arts, et qu'ils étoient si unis entre eux que ceux qui se déterminoient à venir en France cultiver des terres, avoient leurs frères ou Communautés pour Répondants, et que partout où il y en avoit ils donnoient l'exemple du travail et de la concorde; je vous prie de me donner à ce sujet les éclaircissements que vous pourrés.

Je me trouve avoir un territoire très considérable du côté et près de la Rochelle, nouvellement et parfaitement desséché, et formant une terre de promission. On me fait beaucoup de propositions depuis qu'on a commencé à la travailler, mais je voudrois bien ne pas penser uniquement à l'intérêt et oublier les bonnes mœurs à établir s'il se peut dans la colonie qui commence à s'y former. Le bon exemple est le meilleur moyen.

Votre lettre a été remise à Mr. du Luc. Vous connoissez, Monsieur, les sentiments bien sincères que je vous ai voués

signé: BERTIN.

XV

ce 22 Avril 1782.

Mon tant chéri et respecté Monsieur, en réponse à votre lettre du 7 avril, j'ai l'honneur de vous dire, que j'espère que vous aurés

reçu le livre, *Dialogue* de Lord HERBERT qui doit avoir été à la Maison FREMONT, Rue Quincampoix, il y a déjà quelques jours, suivant l'avis que je vous donnois, si les vents contraires n'ont empêché le porteur du livre d'arriver comme il comptoit.

Je continue mes recherches sur le livre de TOLLENER ou nom semblable. Jusqu'à présent en vain. Tout ce qui vous feroit plaisir me seroit toujours commandement délicieux parce que je vous aime tant. Cela tient à la Théologie du cœur, la seule sûre. L'Evangile et celui de qui l'Evangile parle et énonce nous aiant aimé, si on parvient à l'heureux état de sentir combien il nous a aimé trouvera tous ses commandemens délicieux et aisés, de même qu'on trouve tous ceux des personnes qu'on aime, et comme il veut qu'on aime le prochain, Juif, Samaritain, Payen, on suivroit ce commandement loyalement si on l'aimoit. Ainsi point de guerres, point de mépris, point d'avaries, ni rien de semblable.

L'article *Moraves* dans l'*Encyclopédie françoise* a induit bien des personnes à croire plus qu'il n'est des Herrnhuthes. Je ne sçais pas s'il y en a un article *Herrnhuthes*.

Les Herrnhuthes ¹⁾ ordinairement ne vivent point en communauté des Biens, si ce n'est dans les missions vers les Payens. Ils ne sont pas plus agricoles qu'autre chose, chacun travaille à son métier s'il en a; est-il agricole, s'il a des champs il travaille aux champs; a-t-il métier, il travaille au métier. Chacun sait évaluer le temps et se porte à l'industrie, et ne veut pas être paresseux, ni inutile, *fruges consumere non nati*. Nous n'avons jamais eu que je sçache des agricoles ou colonies des nôtres en France ni nulle autre part sans le sçu et gré des Souverains, après examen formel de

1) « *Moraves*: on les appelle encore *Herrnhuthes*, du nom de leur principale résidence en Lusse, Contrée d'Allemagne ». (*Encyclopédie*, X, p. 704).

notre doctrine et mœurs, et sans octroi spécifié, et nous n'avons jamais eu des colonies en Pays catholique. Nous avons une très belle en Russie sur les Frontières de la Tartarie près de Czaritzin et le Volga. Mais par le désir de l'Impératrice après avoir fait examiner nos façon d'être et de vivre, et notre désir d'être utile aux Tartares Payens dits Calmucs.

Je vous souhaite sur votre terrain près de la Rochelle des braves Catholiques, comme les communautés dont il est parlé dans l'*Encyclopédie*, car ce seroit misère d'avoir des Vauriens ramassés sur des terres qui deshonnorent propriétaire et terre.

Il me semble que la tolérance sage prévaut, au moins connivence, mais cela n'est pas ce qui nous contenteroit parce que dans d'autres tems, la jalousie, la haine, le malentendu (ceux qui ignoroient ce que le Patriarche Joseph avoit fait à la couronne d'Egypte vendoient les Israelites esclaves) renverseroient l'établissement le mieux conduit.

Vestigia terrent. Au reste, nous n'aimons point être cause ou occasion d'ériger des autels contre les autels. Ainsi je ne comprends encore comment nous pourrions profiter d'une occasion semblable à celle du voisinage de la Rochelle, presque certain que les Protestans, en France pour le moins autant que les catholiques nous y verroient de mauvais oeil, et même ce que nous devons désirer en France n'est autre chose que ce que tous Protestans et tous Catholiques doivent savoir et vouloir autant que nous: Aimer Jésus Christ qui nous a aimés le premier et donné sa vie en expiation des offences du monde et aimer les hommes comme ses créatures à lui appartenantes, en premier chef, portions et particules de lui par la Foi, ou actuelle ou à venir.

Mes souhaits pour une paix universelle me font des espérances que je ne voudrais pas vaines, je verrai ce qui en arrivera. Je vou-

drois que quelque ange de Paix se fit entendre chez chaque Puissance en Guerre, ramenant le bon sens, le sens du christianisme, le seul bon en tant que paisible. Chez nous, et chez les autres en même tems et je crois que si on savoit chez chacun ce que les autres vouloient par la guerre, qu'elle seroit la façon de vivre après, en cas que la guerre fut finie, ce seroit moi en de terminer naturellement la guerre actuelle, en pesant les choses, pour voir si on ne seroit pas réellement mieux en vivant bientôt sur quelque nouveau pied. Non sujet aux questions ultérieures. Dieu le donne. Je ne connois pas nos nouveaux ministres comme les anciens. Mais je les crois assés disposés de faire bien, quoique cependant je ne les connois pas assés pour en juger. Je sçais que vous m'aimés et que je vous honore autant que je vous aime et je suis vraiment,

Votre tant attaché,

J. H.

J'espère que vous aurés reçu mes remerciemens et pour mes Frères sur les Passeports que j'ai reçus.

XVI

Tant chéri Monseigneur,

J'ai eu occasion depuis ma dernière de voir le Livre de Mr. EBERHARD, *Apologie de Socrate* en Allemand, et je vois, que ce TÖLKEN est un Allemand, qui je crois a été autrefois Professeur à Leipsic. Je ne suppose pas son livre traduit, mais si on avoit quelque Relation à Berlin on le sçauroit exactement chez un nommé NICOLAI, Libraire célèbre à Berlin. J'ai souvent entendu parler de Toelner en Alle-

magne, comme Théologien de la nouvelle mode. Mais j'avois lu dans votre lettre un tout autre nom: Tottener, ou Tollener. Ainsi voilà fini sur ce chapitre. Dans les changemens de nos Bureaux, le chevalier PORTEN est à la Douane, en place de Sous Secrétaire d'Etat, pour lequel office il étoit peu propre. Dorénavant, en cas semblable, j'espérerois meilleur traitement, que sous lui. Ignorant, Lourdaud, commerçant plutôt que Gentilhomme. On seroit injuste si on vouloit blâmer ma Nation pour les Procédures d'un tel. Je lui disois que nous n'étions point ni Goths ni Vandales pour avoir guerre contre les Sciences chinoises. Je perdis mon latin. Dieu donne la Paix possible et durable! Je suis fâché et triste sur les affaires de Genève. Les maximes modernes qui prêchent plus de liberté aux hommes qui ne leur est pas bonne ni utile ni praticable, maximes poussées trop loin, ont causé plus de mal qu'il ne convient, source des insolences et de Bouleversemens, et qui feront chemin en fait de Religion, de Politique, de subordination sage; il me paroît que je vois les animaux Domestiques, les Chevaux et les Bêtes à cornes se révoltant contre les hommes. Car la populace entend aussi peu ce qui convient. En Amérique on les fait Juges et Législateurs, et le Ton et la Jaserie de vos fêmolettes s'en prenant au Ton Américain fera cruel chemin peut-être en France et en Espagne avec le tems suivant le progrès de Tenèbres qu'on appelle Philosophie. Je le crois ainsi. L'arme qui étoit bonne pour nous affoiblir affaiblira d'autres à son tour.

Je souhaite que la France agisse avec considération sur les affaires de Genève.

N'aura-t-on point encore bientôt nouveau volume sur les choses de la Chine.

Mr. de Luc eut été assurément chez vous pour vous faire ses

Remercimens pour ses lettres, s'il avoit en l'esprit assez libre dans l'affliction qu'il a sur les désordres à Genève. Il me prie de vous les faire. La dernière prise d'armes, si mal à propos l'a presque bouleversé, prêt à mourir du chagrin et des Transes pendant 3 jours.

Je prends la liberté de vous prier de lui faire tenir les incluses, une Je crois, de notre Société Roiale, l'autre quelques lignes de ma part.

Je suis avec infiniment du respect et de reconnoissance,

Monseigneur,

votre très-obéissant et très-attaché serviteur,

Jaques HUTTON.

Pimlico, 26 avril 1782.

XVII

Tant chéri Monseigneur,

Je reçus samedi votre billet sur la réception du *Dialogue* d'HERBERT, et que vous aies payé à Mr. FRÉMONT.

Je vais écrire à Labradore pour qu'on m'envoie un modèle d'un petit Bateau des Esquimaux, s'il est possible au retour du vaisseau qui partira d'ici à la fin du mois.

Comme j'ai oui dire que les Troupes entourent Genève j'ai crû oser vous prier de faire en sorte que la lettre incluse soit rendue à son adresse, par le Bureau de Mr. de VERGENNES. Et pour cela je la laisse ouverte afin qu'on puisse la lire, la cacheter et l'envoyer si l'on trouve à propos. J'aime Genève ou j'ai passé 3 ans et $\frac{1}{2}$ bien heureusement.

J'ai crû devoir justifier le bon et grand Mr. de LUC, mon loca-

taire à leurs yeux, et leur réitérer mon petit mot sur leur Etat. Je suppose tout fini actuellement. Dieu le donne!

Je vous prie de me pardonner la liberté que je prends en ceci comme en tant d'autres choses. Le parfait attachement rend un peu hardi. Je vous prie de continuer de m'aimer car assurément il y a peu de personnes qui vous honorent et vous aiment plus que ne fait, votre tant obligé et très-obéissant et très-humble serviteur,

Jaques HURROS.

Pimlico, ce 14 Mai 1782.

XVIII

Je vous prie tant, cher Monsieur, de me faire savoir par quel-qu'un l'état de votre chère santé dans ce temps d'épidémies. Qui n'ont pas été fatales ici, mais on les dit plus fatales dans d'autres Pays. J'espère que ce n'est qu'exagération, mais cependant on s'alarme pour ceux qu'on aime comme je fais tant de cas de vous, il m'intéresse tant de savoir comment vous vous portés. J'ai jusqu'ici échappé et je n'ai perdu encore aucun de mes amis. Dieu merci. Mais j'ai manqué de perdre Mons^r. PETER de SALGAS à Genève d'une fièvre ardente qui a duré plus de 5 semaines et ce n'est que le 29 may qu'on espéra sa guérison. Comme j'aime à vous devoir les plus grandes consolations de ma vie je vous adresse celle-ci, pour vous prier de faire donner ordre au Commandant des Troupes Françaises autour de Genève¹⁾, qu'en cas de blocus on permette

1) A Genève des discussions avaient éclaté entre la bourgeoisie ou les représentants et le parti du Conseil ou les Négatifs; ceux-ci furent opprimés et les rois de France et de Sardaigne ainsi que les Bernois vinrent à leur secours en 1783; la ville asségée se rendit et la constitution fixée en 1738 par un acte de médiation rédigé par la France et les

au dit Mr. de Salgas et ses trois sœurs de sortir pour leur campagne de Barsina près de Rolle, en cas qu'ils fussent en état de sortir. Vous savez qu'il est parent du Cardinal de Beasis et des PELET-NARBONNE. Le meilleur homme du monde savant, plein de sens, a été Sous-Gouverneur du P. de Galles, il m'est comme mon Fils.

J'ai encore à vous prier de communiquer l'incluse par quelqu'un au Dr. FRANKLYN à Passy ¹⁾. Comme il aime nos Indiens Moraves, et les Moraves aussi, il s'intéresse pour eux, comme il l'a toujours fait. La première fois que je connus le Docteur fut à l'occasion de nos Indiens Moraves à qui il fit tant pour les protéger contre les fureurs des fauatiques, il y a bien des années, je crois 18. C'est toujours le même homme, prêt à tout acte d'humanité, je ne sais pas ce qu'il pourroit faire dans ce cas, si ce n'est d'écrire qu'on ne les tue plus, car il en reste encore.

Le cas de ces Indiens est fort singulier. Ils s'étoient établis près de nos frères en Pensylvanie, ayant abandonné tous les mauvaises pratiques des Indiens, devinrent sages, règles, patients, assidus au travail, vraiment dévots chrétiens. Les fureurs du moment environs 18 ans passés les forcèrent à se sauver à Philadelphie où le Dr. Franklyn leur fit tant de bien et les protégeoit. Ils furent en odeur de sainteté et de patience, et perdirent la moitié de leur gens par la petite vérole et autres misères. Depuis on leur a transplanté en 5 et 6 differens endroits, les chassant toujours d'un lieu à un autre à la fin ils s'établirent sur le Muskingham, branche de l'Ohio.

antons de Berns et de Zurich pour terminer les difficultés qui s'étoient élevées entre le gouvernement et la bourgeoisie fut rétablie. Cf. Jean Pictet, *Histoire de Genève*, III, 1811, pp. 433—434.

1) Une plaque au coin des rues Singer et Raynouard rappelle le séjour de Franklin à Passy.

Dans toute cette guerre et en tout tems ces gens vivoient avec leurs Missionnaires uniquement ensemble pour apprendre et pratiquer l'Évangile, et ne voulurent plus prendre ni hache ni armes quelconques pour aucune des parties. Mais vivoient en anachorètes utiles. Ils vivoient sur un pied amical avec les deux parties, étant plus proches voisins de Pittsburg, forteresse américaine, ils vivoient trop bien avec les Américains au grés des Roialistes, et les Indiens Roialistes en dernier lieu, les enleverent tous de force les pilloient et les maltraitèrent, et les forcèrent de s'aller mettre 100 milles plus loin, abandonnant leurs champs, jardins et maisons en trois villages qu'ils avoient bâtis. N'ayant aucun vivres avec eux, ils allerent une fois sans malheur prendre des grains a leur ancien établissement. Mais comme ils étoient a Sandusky lieu de leurs demeure par force, et les Indiens de ce voisinage ayant fait des désordres de leur façon. Les Américains vinrent 160 hommes à cheval et massacrèrent plus de 90 de nos Indiens hommes qui furent chercher des grains paisiblement. On ne les tua point dans la chaleur mais du sang froid le lendemain, leur laissant comme ils disoient le tems de se préparer à la mort chrétienne, qu'ils subirent avec une patience qui devoit les faire respecter. Jamais de nos jours il n'y est rien arrivé de semblable. Horreur exécrable dictée par la fureur et l'ignorance de cas de ces saints hommes et femmes. La Gazette de Philadelphie en parle aussi. Mais on y suppose faussement qu'on avoit tué un blanc. Il peut fort bien être que quelqu'Indien Roialiste en avoit fait un meurtre. Mais sûrement aucun indien Morave ne fait rien de semblable.

C'est un malentendu qui coûte cher aux cœurs sages et Chrétiens, et deshonne éternellement ceux qui l'ont fait. Les Indiens nouveaux convertis ne comprendront point quelle espèce de Religion

admet ces atrocités. Les sauvages savent distinguer ceux qui veulent tuer; assés exactement. Leur sang parlera devant Dieu. Je suis fâché et triste, et vous le communique en ami tendre et plein d'humanité, et suis persuadé que le bon Franklin sera attristé de même, mais il faut qu'il le sache. Je lui envoie donc ce papier que je crois à peu près exact avec mes tendresses réelles. On a d'autre part communication du fait. Ainsi il n'y a point de doute sur la vérité du fait en général, et certainement ces saintes gens ont été dignes d'avoir un meilleur traitement. Cela causera une guerre cruelle entre les Indiens, nos Moraves et les Américains. Quiconque fait la guerre ne sait pas déterminer les horreurs.

Je suis avec le dévouement extrême que vous me connoissés pour vous,

Monsieur,

Votre très-humble et très-obéissant serviteur,

J. HUTTON.

Pimlico, le 18 juin 1782.

AMERICAN NEWS. 1)

From the New York Papers.

Extract of a Letter from Pennsylvania, dated the 9th and 10th of April.

« You have heard it, that last fall the three Indian congregations on Muskingum were carried away, with their missionaries, to Sandusky Creek: they thereby lost their houses, provisions, and their

1) Pièce imprimée. Accompagnant la lettre précédente.

most of their necessities. Being in a place destitute of every thing, want and hunger obliged them to go back to their former town, to seek and fetch what they had left, and which had not been destroyed. On this occasion many of them have been murdered in a most inhuman manner. This has been reported, and confirmed by several persons, who came out of the neighbourhood of Pittsburg, some of whom had been present at a *vendue* (auction) made of the horses, blankets, etc. carried off as a booty after the slaughter of these innocent Indians had been perpetrated. The account given of this horrid scene is as follows: Towards the end of February last, about 160 white people from the vicinity of the Monongahella joined together and set out on horseback, to destroy the Indian towns on Muskingum, from whence, as they gave it out, inroads into the settlements of the white people had been made, and they were displeased that the Commandant at Pittsburg had not killed one Shebosh, and his company, while they were come from Sandusky to their former towns the first time to fetch provisions. After these white people were come near one of the said towns, they discovered some Indians, and especially one in the field by himself, whom they fired at and wounded in the arm, which prevented his escape, and he surrendered himself; they advanced with their tomahawks, he begged for his life, telling them that he was the son of Shebosh; but they cut him to pieces. They then divided themselves, and surrounded the rest, who on the alarm had scattered to seek for their horses; they drove them together, and made them prisoners without opposition. The Indians made themselves known as Christian Indians, particularly when a keg of wine was found with them, they said it was their communion wine. They were told to be carried to Pittsburg, as prisoners, which cheered them. Their number, with the women and children, was,

it is said, 95 persons, tho' some say that not all them had been Christian or Moravian Indians, but that some other Indians had been along with them. Upon this the white people had disagreed what to do with them, whether to kill them or to carry them to Pittsburg, and had held a council. Their Captain chosen by them, had left it to their option; whereupon the unanimous resolution was, to kill them all the next day. One of the white people notified to the Indians afterwards, that whereas they were Christian Indians, they should prepare themselves in a christianlike way, for the next day they all must die. This had dashed them, especially the women; but they remained composed and resigned, and had sung psalms and spiritual hymns all the night through. The next day they were dragged two and two, by ropes, to two houses in one of the towns; which houses had been fixed upon for that purpose, and were called slaughter-houses; here they killed and scalped them, at which execrable massacre the Indians were extraordinarily patient. Afterwards the two houses full of corpses, and the three towns were burnt and destroyed. About 50 horses, many blankets, etc. with the scalps, were carried off as booties. By this, in their opinion successful expedition, the white people have been encouraged to make another excursion in the month of March, and to penetrate as far as Sandusky, in order to destroy the rest of the Indians there. *

*. The above has been confirmed from many quarters, and there has been an account inserted in the New York Papers, that the above murdering party set out for Sandusky to perpetrate their cruel purpose, but were attacked by the Indian warriors, and the whole party cut off except six or seven; but we have no farther authentic intelligence of this last account.

XIX.

Le moyen, tant cher Monsieur, de ne pas s'intéresser à une santé comme la vôtre.

J'espère que les suites du gros Rhume seront entièrement passée.

J'ai reçu hier la chère vôtre du 10 juillet avec l'incluse du Dr. FRANKLIN, voici ma réponse que vous aurez la bonté de la lui adresser. Oui j'espère aussi que la fureur fanatique cessera partout. C'étoit vraiment malheureux que nos Indiens qui étoient déjà dans des grandes peines et souffrances pour avoir refusé de prendre la hache contre les Américains fussent massacrés par les Américains. C'étoit une pure triste méprise.

Je reçus hier lettre de Mademoiselle de SALMAS; son frère se retira de la ville dans le seul moment nécessaire, quoique dans un état peu propre pour être transporté. Il est de retour dans la ville, Dieu merci, mais bien foible encore. Je remercie Dieu pour la tranquillité de Genève sans effusion du sang. J'ai quelques centaines d'amis dans la ville et nous nous aimons beaucoup. Je compte la constitution de la ville entièrement perdue par la folie des fanatiques, mais le Fanatisme fait ses Epidémies par toute la terre. J'aime mieux le Fanatisme bienfaisant. Je vous prie d'aimer toujours votre tant attaché

H.

23 juillet 1782.

XX.

27 décembre 1782.

Monsieur, ¹⁾

J'eusse été et je serai très aise d'entendre que vous avez regagné la santé à Spa. Celle-ci a été de vous assurer de mon dévouement entier pour votre chère personne. J'ai reçu de Labradore un petit modèle de petit bateau des Esquimaux, tel qu'on avoit pu y procurer dans le peu de tems que le vaisseau fût à notre mission. Si on avoit pu attendre peut-être eut on trouvé un encore mieux fait. Mais celui-ci pourra servir pour en donner une idée d'un tel bateau.

On me dit que le Dr. FRANKLIN souffre beaucoup de la Pierre. Peut-être auroit on occasion de lui dire de ma part que je lui souhaite meilleure santé, et que le célèbre BAGLIVI ²⁾ en Italie soulagea le chevalier HUSSEY, autrefois notre ambassadeur à la Porte, par le seul remède de trois onces de l'eau chaude prises goutte à goutte comme on prend le café aussi chaud que possible chaque jour une demi heure avant le diner. Mon Père soulagea diverses personnes dans le même mal par ce remède simple, qu'on ne doit pas confondre avec les pintes d'eau chaude du Dr. Sangrado chez qui Gil Blas exerça métier. J'ai moi même une seule fois fait du bien dans ce mal à un homme à Zurich par ce remède. On trouvera dans les œuvres de Baglivi que l'eau chaude goutte à goutte dissout la pierre petit à petit ³⁾.

1) Remercier à l'ordinaire; je feray rendre le tout à Mr. Franklin. Mr. de Reyneval voudra bien se charger du modèle du bateau; je vais lui en écrire dès que je sauray son adresse à Londres.

2) George BAGLIVI, né en 1668; † à Rome en 1706.

3) Na. Copier cet endroit pour le lui remettre par M. Chauvotier. (5)

Je guetterai l'occasion de vous faire voir le petit modèle du bateau empaqueté dans une boîte qui n'a je crois que 3 pieds de long et ne pèse que peu. Si vous me donnés vos ordres en cas que vous en aies là-dessus, je vous les enverrai exprès.

Je voudrais seulement qu'il fut plus beau.

Si la paix par quelque malheur se retarde nonobstant le beau bruit je renverrai le Passeport assés de bonne heure pour en avoir un plus fraîche.

Je vous dois toute la consolation que ces Passeports nous procurent et qui est ce que je ne voudrois pas vous devoir? Vous aimant et vous chérissant avec tant de respect,

J'ai l'honneur d'être, Monsieur,

Votre tant obligé et dévoué serviteur,

Jaques HURTON.

Ce 27 déc. 1782.

Pimlico.

P.S. Nos Missionnaires prospèrent, les Missionnaires sont en Santé la Nation des Esquimaux est civilisée et moralisée au mieux et ceux qui fréquentent ces parages à peine trouvent-ils les traces de leur ancienne tradition, vols et meurtres.

NOTES ON THE RELATIONS AND TRADE OF CHINA WITH THE EASTERN ARCHIPELAGO AND THE COAST OF THE INDIAN OCEAN DURING THE FOURTEENTH CENTURY

PART II

BY

W. W. ROCKHILL. ¹⁾

INTRODUCTORY NOTE.

The works which form the basis of the following description of the countries and localities in or near the Eastern Archipelago, Southern Asia, and Eastern Africa known to the Chinese during the latter part of the Yüan dynasty and the beginning of that of the Ming, (approximately from the middle of the fourteenth to the middle of the fifteenth centuries), are four in number:

1. Wang Ta-yüan's *Tao i chih liu*, dated 1349.
2. Ma Huan's *Ying yai shêng lan*, 1425—1432 (?).
3. Fei Hsin's *Hsing ch'a shêng lan*, dated 1436.
4. Huang Shêng-ts'êng's *Hsi yang chao kung tien lu*, dated 1520.

(1) According to the "Catalogue of Books in the Imperial Library", or *Ssu k'u ch'üan shu chung mu* (四庫全書總目片, 12), the *Tao i chih liu* (島夷志畧), or "Description of the Barbarians

1) See *T'ung pao*, July 1914, p. 419.

of the Isles", was written by a native of Nan-ch'ang (南昌) in Kiang-si by the name of Wang Ta-yüan (汪大淵), with the cognomen of Huan-chang (換 (or 煥) 章), who visited for purposes of trade a considerable number of foreign localities during the *chih-ch'ang* period of the Yüan (1341—1367), and who recorded what he had seen in this work.

This book, it goes on to state, is noteworthy as a strictly personal, and consequently trustworthy, record, resembling in that the later work of Ma Huan, and differing from the earlier work (*Chü fan chih*) of Chao Ju-kua, Customs Commissioner of Fu-kien, who did not write from personal observations but only from reports made to him by others.

The date assigned above for the travels of Wang Ta-yüan is not quite correct, but though there does not seem to have been preserved any author's preface to the work, one of the three prefaces and the postface attached to the modern reprint of the book in the collection published in 1896 by Lung Fêng-piao (龍鳳鏤) under the title of *Chih-fu-ch'ai ts'ung-shu* (知服齊叢書) fixes the date of its composition in the winter of 1349—50, for this preface, by Wu Chien of San shan (三山吳鑒), a Customs Tao'ai of Ch'üan-chou in Fu-kien, bears the date of 12th moon of the 9th year *chih-ch'eng* (beginning of 1350).

There are only two dates to be found in the body of the book which are of importance, but from the one we conclude that Wang Ta-yüan was already travelling in 1230, and from the other we learn that he probably put the last touches to his work after the summer of 1349¹).

1) Ch. 70 (*Ta fo shan*, *infra* 55 (1)), he says that in the winter of the year *t'ing-wu* of the *chih-shun* period (1330) he was sailing for two days along the foot of the Ta Fo shan (Dondra Head, Ceylon?). Ch. 33 (*Hsia*, *infra* 5 (1)), he refers to an attack by forces from Hsia (Siam) at Lo-hu (on the lower Mékong) in the summer of the year *ts'ü* of the *chih-ch'eng* period (1249).

Wang's book is divided into an hundred chapters or sections, in which he describes ninety-nine countries, ports, and noteworthy localities from the Pescadores and the Moluccas in the east to Arabia and the east coast of Africa in the west. Most of the places mentioned he may have visited, though it is very doubtful whether he ever reached the remoter ones, Timor, for instance, and most of the places in the Far West. Some he certainly did not, such as Ma-lu-kien (馬魯淵, Merv?) and Ma-ho-ssu-li (麻呵斯離, Mosul?). However this may be most of the information he gives concerning even the remotest places in the east or west is valuable in one way or another, and sufficient in the generality of cases to enable us to locate them roughly, though in a number of cases the names used by him to designate them cannot as yet be identified. Some of the places in the Eastern Archipelago at which his junk anchored were, in all likelihood, little trading-ports which have long since disappeared, or are now known by quite different names. Many of the names he uses do not occur in the books of the early Ming travellers, nor are they found on the few Chinese maps of the beginning of that period which are known to me.

Although Wang was familiar with the books of travels of the later Sung writers, the *Ling wai tai ta* of Chou K'ü fei and the *Chu fan chih* of Chao Ju-kua, he quotes them but rarely, and when he refers to localities mentioned by them he often uses different characters in writing their names. I have only found five passages in the whole book which are quotations from the *Chu fan chih*, one in the section on the Philippines (三島), one in that on Paurang (賓童龍), two in that on Palembang (三佛齊) and one in that on India (天竺). Nevertheless, the influence which the book of Chao Ju-kua exercised on him has been very great; it served him as a model, and he has followed it closely in the arrangement of his text, noting carefully, with tedious regularity,

and generally in the identical terms used by the earlier writer, the same local peculiarities in customs, dress, religion, products, trade, etc.

Though Wang's literary style is poor, he appears from a number of remarks made here and there in his work, to have been a man of considerable culture and broad reading, and of a philosophic turn of mind. The only chapter of this work which has heretofore been translated is that on Mecca (*T'ien-tang*) which was rendered into English by Bretschneider, *Medieval Researches*, II, 300—301. Prior to this a few quotations taken from the *Tung hai yang kao* and other works in which they figured in footnotes were all that was known to students unacquainted with the Chinese language of this important book.

The following table gives the contents of this book. The only order followed by the author in arranging his materials is a general division of eastern countries and western ones, but even in this there are frequent exceptions.

The two first figures (one in brackets) on the left hand side of each entry in the table correspond with those occupying similar positions in the title line of the translations given below. The third figure indicates the order of the chapter or section in the original work. These observations apply to all the texts translated here.

- | | |
|---------|--|
| | 1. P'eng-hu (澎湖), Pescadore islands. |
| | 2. Liu-k'iu (琉球), north-western Formosa. |
| 51 (1). | 3. San tao (三島), portion of northern Philippines. |
| 50 (1). | 4. Ma-i (麻逸), portion of northern Philippines. |
| | 5. Wu-chih-pa (無枝拔), unidentified (produced tin, in Malay Peninsula?). |
| 33 (1). | 6. Lung-yen hai (龍涎嶼), Pulo Rondo (coast N.W. Sumatra). |

7. Kiao-chih (交趾), Tongking.
- 1 (1). 8. Chan-ch'eng (占城), Annam.
9. Min-to-lang (民多郎), unidentified (produced ebony, in Malay Peninsula?).
- 3 (1). 10. Pin-t'ung-lung (賓童龍), Panrang.
- 6 (1). 11. Chên-la (真臘), Kamboja.
- 16 (1). 12. Tan-ma-ling (丹馬令), Tembeling (? north Pahang, Malay Peninsula).
- 4 (1). 13. Jih-li (日麗), Jarai (?), a dependency of Chên-la.
- 9 (1). 14. Ma-li-lu (麻里嚕), unidentified, a dependency of Chên-la.
- 15 (1). 15. Hsia-lai-wu (遐來物), unidentified.
- 13 (1). 16. P'êng-k'êng (彭坑), Pahang.
- 14 (1). 17. Ki-lan-tan (吉蘭丹), Kilantan.
- 12 (1). 18. Ting-kia-lu (丁家盧), Trengganu.
- 21 (1). 19. Jung (戎), an aboriginal tribe of Malay Peninsula (?).
- 7 (1). 20. Lo-wei (羅衛), Ligor (?).
- 8 (1). 21. Lo-hu (羅斛), Lopburi, Lower Menam district.
- 48 (1). 22. Tung-chung-ku-la (東冲古刺), Tanjongpura (?), S.W. Borneo.
23. So-lo-ko (蘇洛哥), unidentified.
24. Chên-lu (針路), unidentified, a dependency of Chên-la?
- 40 (1). 25. Pa-tu-ma (八都馬), Tioman island (??), S.E. coast Malay Peninsula.
- 38 (1). 26. Tan-mo (淡邇), unidentified.
27. Chien shan (尖山, "the Peak"), unidentified.
- 35 (1). 28. Pa-ch'ieh-na-chien (八節那門), near Surabaya (Java).
- 24 (1). 29. San-fo-ch'i (三佛齊), Eastern Sumatra.
30. Hsiao-pên (嘯噴), unidentified (near Kodah, Malay Peninsula?).

- 47 (1). 31. P'o-ni (浮泥), north-western Borneo, Brunei.
- 71 (1). 32. P'êng-kia-lo (朋家羅), Bacanor (?), Faknur of the Arabs.
- 5 (1). 33. Hsien (暹), Siam.
- 34 (1). 34. Chao-wa (爪哇), Java (Majapahit).
- 37 (1). 35. Chung-kia-lo (重迦羅), Janggolo, in Eastern Java.
36. Tu-tu-an (都督岸), unidentified (in Sumatra?).
- 41 (1). 37. Wên-tan (文誕), Bauda, Molocca islands.
- 52 (1). 38. Su-lu (蘇祿), Sulu Archipelago.
- 19 (1). 39. Lung-ya-hsi-chio (龍牙犀角), Lankawi islands.
40. Su-mên-pang (蘇門傍), Sumbawa island (?).
- 25 (1). 41. Ch'iu-chiang (舊港), Palembang (and Jambi, Sumatra).
- 20 (1). 42. Lung-ya-po-t'i (龍牙菩提), unidentified.
43. Pi-shê-yeh (毗舍耶), south-western Formosa.
- 23 (1). 44. Pan-tau (班率), Batam (or Bintang) island (?).
- 36 (1). 45. Pu-pên (浦奔), near Madura island, Bawean (?). ✓
- 45 (1). 46. Kia-li-ma-ta (假里馬打), Karimata island.
- 43 (1). 47. Wên-lao-ku (文老古), Molucca islands (Ternate?).
- 42 (1). 48. Ku-li Ti-mên (古里地悶), Timor.
- 22 (1). 49. Lung-ya mên (龍牙門), Singapore Strait.
- 10 (1). 50. K'uu-lun (崑崙), Palo Condor.
- 2 (1). 51. Ling shan (靈山), Cape Sanho (Annam).
- 17 (1). 52. Tung hsi chu (東西竺), Anamba islands.
- 28 (1). 53. Chi shui wan (急水灣), Surat Passage (? coast north Sumatra).
- 30 (1). 54. Hua mien (花面), the Battaks (Sumatra).
- 27 (1). 55. Tan yang (淡洋), mouth of Tamiang river (Sumatra).
- 32 (1). 56. Hsü-wên-ta-la (須文答刺), Samudra (Acheh, Sumatra).
- 54 (1). 57. Séng-kia-la (僧加刺), Ceylon (Belligam). ✓
- 44 (1). 48. Kou-lan shan (勾欄山), Geram island, coast of Borneo.

59. T'ê-fau-li (特番里), also called Hsiao Shih (小食),
in Sumatra (?).
- 68 (1). 60. Pan-ta-li (班達里), Fandaraina (?).
61. Man-t'o-lang (曼陀郎), unidentified.
- 31 (1). 62. Nan-wu-li (喃哩), Lambri (Acheh, Sumatra).
- 59 (1). 63. Pei Lin (北溜), northern Maldivé islands. ✓
- 65 (1). 64. Hsia-li (下里), Hili, Ras Haïli of the Arabs.
- 57 (1). 65. Kuo-lang-pu (高郎步), Colombo.
- 69 (1). 66. Sha-li-pa-tan (沙里八丹), Jurfattan (? Cananore).
- 54 (1. n.). 67. "The Golden Pagoda" (金塔), at base Dondera Head,
Ceylon.
- 39 (1). 68. Eastern Tan-mo (東淡邇), unidentified.
69. Ta-pa-tan (大八丹), Budfattan of the Arabs (?).
70. Kia-li-na (加里那), unidentified; noted for long-sailed
sheep.
71. "The Earthen Pagoda" (土塔), near Jurfattan.
- 58 (1). 72. Ti san chiang (第三港), in Gulf of Manar (?).
- 70 (1). 73. Hui-lo (華羅), Honore (? Honawar).
74. Ma-na-li (麻那里), unidentified; in East-Africa (?).
75. Kia-chiang-mên-li (加將門里), unidentified.
76. Po-ssu-li (波斯離), Persia.
77. Ta-chi-na (撻吉那), unidentified; noted for gardenia
flowers.
78. Chien-li-ma (千里馬), unidentified; possibly near
N° 59.
- 56 (1). 79. "The Great Buddha Mountain" (大佛山), Dondera
Head.
- 67 (1). 80. Hsü-wên-na (須文那), Mangalore (?). ✓
81. "The myriad li reef" (萬里石塘), Macleesfield Banks.
- 62 (1). 82. Hsiao Kū-nan (小俱喃), Kain Colam. ✓
- 66 (1). 83. Ku-li-fo (古里佛), Calicut. ✓

- 60 (1). 84. P'êng-ka-la (朋加刺), Bengal. ✓
- 49 (1). 85. Pa-nan-pa-hsi (巴南巴西), Banjarmasin (? Borneo).
- 72 (1). 86. Fang-pai (放拜), Bombay (?). ✓
87. Ta wu tieh (大烏爹), unidentified; in Africa (?).
88. Wan nien chiang (萬年港), near Lingga island (?).
89. Ma-pa-erh hsi (馬八兒嶼), unidentified, near N° 75.
90. A-sü-li (阿思里), unidentified, remotest South-West.
- 84 (1). 91. Li-ch'ieh-t'a (哩伽塔), unidentified, a tribe of Somaliland (?).
- 80 (1). 92. T'ien-t'ang (天堂), Mecca.
93. T'ien-chu (天竺), India "under King of Ta Ts'ü". ✓
- 82 (1). 94. Ts'êng-yao-lo (層搖羅), Zanguebar.
95. Ma-lu-chien (馬魯潤), Merv (?).
- 83 (1). 96. Kan-mai-li (甘埋里), Comoro islands.
- 81 (1). 97. Ma-ho-sü-li (麻呵斯離), al-Mawail (? Mosul).
- 85 (1). 98. Lo-p'o-sü (羅婆斯), on Berbera coast (Somaliland).
- 61 (1). 99. Wu-tieh (烏爹), Orissa. ✓
100. Resumé of strange fact (異聞類聚).

Within the last few years the text of the *Tao i chih liö* has been republished with annotations by Shên Ts'êng-chih (沈曾植), a scholar of Kia-shing in Chê-kiang, in the collection of reprints published in Shanghai and entitled *Ku hsiö hui k'an* (古學彙刊), in the 3rd and 4th Series, Parts II. The title of Shên's work is *Tao i chih liö kuang chêng* (島夷志畧廣證). The editor is familiar with the early literature on the subject and in several places has been able to suggest valuable corrections to the text, basing them sometimes on a manuscript copy of the *Tao i chih liö* to which he had access. His text reproduces exactly that given in the *Chih fu ch'ai ts'ung shu*.

In his notes he makes use of the *Ling wai tai ta*, the *Chu fan*

chih, the works of Ma Huan, of Fei Hsin, and of Huang Shêng-tsêng, of the Supplement to Ma Tuan-lin's Encyclopedia, and of other works of the latter part of the Ming period, also of sailing directions, with which I am unfamiliar. Some of his identifications of names mentioned by Wang Ta-yüan are correct, but many of them quite unlikely. I have made frequent reference to this work in my footnotes.

(2) The *Ying yai shêng lan* (瀛涯勝覽) or "Description of the coasts of the Ocean", was written by Ma Huan (馬觀) of Kí shan (稽山, or Kí shan k'iao 稽山樵), an otherwise unknown Chinese Moslim who, according to the preface of his work was, on account of his knowledge of foreign languages, attached as interpreter to the 1413 mission to explore foreign lands entrusted by the Emperor Yung-lo of the Ming to the eunuch Cheng Ho. This work is in one book, divided into eighteen sections, in which are given descriptions of nineteen countries visited by the author during his connexion with the mission.

The *Ssu k'u ch'üan shu tsung mu* (78, 15) says of this work:

"This book was written by an otherwise unknown man of the Ming period called Ma Huan. The contents mostly record events of the time of Cheng Ho's foreign missions, so it was written after the reign of Yung-lo.

"The foreign countries described in it are Chao-ch'êng (Annam), Chao-wa (Java), Ch'in-chiang (Palembang), Hsien-lo (Siam), Man-la-ka (Malacca), A-lu (Aru), Su-mén-ta-la (Sumatra), Nan-po-li (Lambri), Hsi-lan (Ceylon), Hsiao Ko-lan (Quilon), Ko-chih (Cochin), Ku-li (Calicut), Liu shan, Tieh-kan (Maldivé Islands), Tsu-fa-erh (Djofar), A-tan (Aden), Pang-ko-la (Bengal), and Hu-lu-mo-ssü (Ormuz), in all nineteen countries in eighteen chapters, for the

notice on Na-ku-erh, as it referred to a very small country, forms a supplement to the chapter on Su-mên-ta-la.

"Each chapter gives a description of the boundaries, the distances, the customs, the products, and also touches on (recent) political events.

"Generally speaking this work is in close agreement with the Historical Section (of the *Ming shih*)".

The contents of the *Ying yai shêng lun* are arranged as follows:

- 1 (2). 1. Chan-ch'êng (Annam).
- 34 (2). 2. Chao-wa (Java).
- 25 (2). 3. Ch'in-chiang (Palembang).
- 5 (2). 4. Hsien-lo (Siam).
- 11 (1). 5. Man-la-ka (Malacca).
- 26 (1). 6. A-lu (Aru, Sumatra).
- 32 (2). 7. Su-mên-ta-la, Na-ku-erh (Acheh, Battaks).
- 29 (1). 8. Li-tai (Lidé, Sumatra).
- 31 (2). 9. Nan-po-li (Lambri, Sumatra).
- 55 (1). 10. Hsi-lan (Ceylon).
- 62 (2). 11. Hsiao Ko-lan (Quilon). ✓
- 64 (1). 12. Ko-chih (Cochin). ✓
- 66 (2). 13. Ku-li (Calicut). ✓
- 59 (2). 14. Lâu-shan, Tieh-kan (Maldivé Islands). ✓
- 75 (1). 15. Tsu-fa-erh (Djofar, Arabia).
- 74 (1). 16. A-tan (Aden, Arabia).
- 60 (2). 17. P'ang-ko-la (Bengal). ✓
- 73 (1). 18. Hu-lu-mo-shā (Ormuz).

The original edition of this work is only known to me through a printed copy in my possession bearing no date or name or place of printing, but which I am inclined to think is probably of the very late Ming period. In this copy there is no preface, explanatory

or bibliographic note, concerning the work and its author; only the text.

The text of this edition was, some years after its first publication, but not earlier than 1436 or 1437, amplified by a certain Chang Shêng (張昇). This date seems certain, for Chang unquestionably used materials derived from Fei Hsin's *Hsing ch'a shêng lan* of 1436, and presumably some from Kung Chên's *Hsi yang fan kuo shih* of 1434. He altered considerably the arrangement of paragraphs in the original work of Ma Huan. He also, I think, added a preface to which is appended the name of Ma Huan and the date of 1416, changed some of the dates, and introduced data taken from earlier works of the Sung and Yüan periods, principally the *Chu fan chih* of Chao Ju-kua (of 1225) and the *Tao i chih t'ao* of Wang Ta-yüan (of 1348).

I have consulted a manuscript copy of this edition of Chang Shêng which is in the British Museum (O. R. 6191). This version was made use of by George Phillips and Groeneveldt in their translations of the *Ying yai shêng lan*. I have followed in my translation the earlier and shorter text.

This amplified text of the *Ying yai shêng lan* is found in the collection of miscellaneous works of the Ming, entitled, *Ki lu hui pien* (紀錄彙編), published in 1617, and also in several other subsequent similar collections, but I have not been able to compare these texts with that of the British Museum copy. I fancy, however, they are all taken from the same original, and they probably only vary here and there as a result of negligent copying.

The date given to the preface attributed to Ma Huan in Chang Shêng's edition, to wit 1416, cannot possibly be correct, for in it Ma Huan gives the Emperor Yung-lo his posthumous title of T'ai-tsung-wên Huang-ti, which only came into use the year after his death, or in 1425. Furthermore, in the chapter on Su-mên-ta-la

in the *Ying yai shêng lan* reference is made in connexion with the mission of Chêng Ho to that country which occurred in 1407, to events which occurred in 1424. It is to be noted, furthermore, that the *Sau k'u ch'uan shu t'i yao* (78, 15) assigns no date to this book, but says that, "referring to events of the time of Cheng Ho's mission it must have been written after the Yung-lo reign".

It seems safe to assign to the first publication of Ma Huan's work a date between 1425 and 1432.

The following is a translation of the Preface to Chang Shêng's edition of this work:

"I had in years gone by read the *Tao i chih* which records the peculiarities of the seasons of various countries, of their peoples and products, and I, doubting, wondered how there could be things in the world so different from what we know them. But in the year *kwei-sui* (癸巳) of Yung-lo (A.D. 1413) the Emperor T'ai-tsung-wên appointed the eunuch Chêng Ho to take ships and proceed to the foreign peoples of the West to explore, and I had bestowed on me by the Throne the post of interpreter of foreign languages and writing to the mission.

"After having voyaged endless thousands and myriads of *li* across the boundless, waving waters of the Ocean, and after having seen the different states, their varying seasons and climates, their peoples and their products, I came to know that not only were the statements of the *Tao i chih* concerning foreign lands not lies, but that there were even more wonderful and stranger things than it had told of.

"So I have got together all that is good or bad concerning the peoples and things of each country, and have described the strangeness of their customs, the various products of their soil, the boundaries of their lands, and arranged all this in order, and have thus come to compose this book which I have called *Ying yai shêng lan*, or

"A comprehensive survey of the shores of the Ocean". In it at a glance one may ascertain all the facts relating to foreign parts, and recognize that during no previous dynasty has the sacred influence of the Throne been so widespread as at the present time.

"I am but a stupid, incompetent driveller, but in the discharge of my work with the mission of Chêng Ho I candidly and honestly set down many strange things and nothing more, for I am without literary ability, unable to use a metaphor or amend a text; I can only put down things as I know them to be. This review has nothing in it of a doubtful nature which can be held up to ridicule".

Published (述) in the year *ping-shên* (丙申, A.D. 1416) of Yung-lo, in the *huang-chung* (黃鍾 or 11th moon), by Ma Huan of Hui-ki shan k'iao (曾 乂 山 樵).

(3) The *Hsing ch'ü shêng lan* (星槎勝覽), or "Description of the stary raft", is the work of a certain Fei Hsin (費信) who, during the reigns of the Emperor Yung-lo and his successor, Hsüan-tê, say from 1405 when the first named Emperor sent a mission to the south-west, to 1435, made several voyages in the suite of the famous eunuch Chêng Ho; in what capacity does not appear, but presumably as a secretary or clerk.

Fei Hsin's preface bears date 1436. It contains very little of interest beyond the remark that during the twenty-five odd years during which he was at various times visiting foreign lands he carefully noted the peculiar customs and products of the localities he came to, and "compiled maps" (輯圖), after which he wrote the present volume. It may be that these maps (if *t'u* has this meaning in the present case) were the originals from which was made the fifteenth century map reproduced by George Phillips in the *Journal of the China Branch of the Royal Asiatic Society*, but this is a mere surmise.

In the body of the work there is found only one date which may give any indication as to when the author was on his travels. In the chapter on Java he states that from old records preserved in the country he learned that 1376 years "counting from the 7th year of Hsüan-tê (1432)" had elapsed since civilization was first introduced into Java. It seems fair to assume that 1432 was the year in which the author first learned of this event from native traditions or written records which were communicated to him during his sojourn in the island, and that by an oversight he did not change this date when he wrote his book in 1436. In the same year he records elsewhere that during the winter he was anchored off the Nicobar islands (Tsui lan shan) for three days.

Much of the information contained in this book is not original, and consequently may not be correct for the time at which Fei Hsin wrote. In some cases, which are duly noted in footnotes in the present work, the information of earlier writers, especially of Wang Ta-yüan, has been made to apply to countries or localities quite different from what it originally did.

This work is based on the first edition of Ma Huan's work, even the title is copied on that of the earlier book; it seems likely also that a considerable amount of information may have been derived from another work published two years before the appearance of his and entitled *Hsi yang fan kuo chih*, or "Description of Foreign Countries", which will be noticed later on. Nevertheless the book of Fei Hsin contains numerous interesting and apparently original notes on points not noted by earlier writers, or which elucidate and corroborate the earlier too brief and incomplete statements.

The *Hsing-ch'a shêng lan* was first published in a collection of miscellaneous works brought out in 1544 by Lu Chi-shi (陸楫思) under the title of *Ka chin shuo hai* (古今說海) where it is found in the first section (部). It was afterwards reprinted in the

Chi lu hui pien (紀錄彙編) published in 1617. It is also found in other subsequent miscellaneous collections (*Ts'ung-shu*). The Catalogue of the Imperial Library contains no reference to this work.

The work is divided into four chapters in which forty countries or localities are described in separate sections. Portions of this work have been translated by Groeneveldt in his wellknown work, *Notes on the Malay Archipelago*.

The contents of this work are as follows:

Chapter I.

星樓 船 信
by 夢 人

- 1 (3). 1. Chan-ch'eng (Annam).
- 2 (2). 2. Ling shan (Dawaish Head, Annam).
- 10 (2). 3. K'un-lun shan (Pulo Condor).
- 3 (2). 4. Pin-tung-lung (Panrang, Annam).
- 6 (2). 5. Chên-la (Kamboja).
- 5 (3). 6. Hsien-lo (Siam).
- 45 (2). 7. Chia-li-ma-ta (Karimata Island).
- 44 (2). 8. Chiao-lan shan (Géram Island).
- 34 (3). 9. Chao-wa (Java).
- 25 (3). 10. Chin-chiang (Palembang, Sumatra).
- 37 (2). 11. Chung-kia-lo (Janggolo, Java).
- 42 (2). 12. Chi-li ti-mên (Island of Timor).

Chapter II.

- 11 (2). 13. Man-la-ka (Malacca).
- 46 (1). 14. Ma-i-tung (Billiton Island).
- 13 (2). 15. Pêng-k'ông (Pahang, Malay Peninsula).
- 17 (1). 16. Tung-hai chu (Auamba Islands).
- 22 (2). 17. Lung-ya mên (Singapore Strait).
- 19 (2). 18. Lung-ya-ka-i (Lankawi Islands).
- 18 (1). 19. Chiu chou shan (Sembilang Islands).
- 26 (2). 20. A-lu (Aru, Sumatra).
- 27 (2). 21. Tan yang (Tamiang River, Sumatra).

Chapter III.

- 32 (3). 22. Su-men-ta-la (Acheh, Sumatra).
 30 (2). 23. Hua-mien (Battaks, Sumatra).
 33 (2). 24. Lung-yen hsü (Pulo Rondo, Sumatra).
 53 (1). 25. Tsin-lan hsü (Nicobar Islands).
 55 (2). 26. Hsi-lan shan (Ceylon).
 59 (3). 27. Liu shan yang (Maldivé Islands).✓
 63 (1). 28. Ta Ko-lan (Qailou, Kulam).✓
 62 (3). 29. Hsiao Ko-lan (Kain, Kulam).✓
 64 (2). 30. Ko-chih (Cochin).✓
 66 (3). 31. Ku-li (Calicut). ✓

Chapter IV.

- 60 (3). 32. P'ang-ko-la (Beugal).✓
 76 (1). 33. Pu-la-wa (Brava, Somaliland).
 77 (1). 34. Chu-pu (Juba, Somaliland).
 79 (1). 35. Mu-ku-tu-shu (Mogadisho, Somaliland).
 74 (2). 36. A-tan (Aden, Arabia).
 78 (1). 37. La-sa (Zeila? Somaliland).
 75 (2). 38. Tso-fa-erh (Djofar, Arabia).
 73 (2). 39. Hu-lu-mo-ssü (Ormuz).
 80 (2). 40. T'ien-fang (Mecca, Arabia).

(4) The *Hsi yang chao kung tien lu* (西洋朝貢典錄), or "Record of the Tributary Nations of the West", was written in 1520 by Huang Shêng ts'ung (黃省曾) of Wu-chun (吳郡). In his preface the author states that his work is derived from the *Hsing ch'a*, the *Ying yai*, and from sailing directions, and in fact it is but a compilation of these two works, and such data as is not derived from them may have been borrowed from the still unknown to me *Hsi yang fan kuo chih* of 1434, although it is not mentioned in his list of authorities. The footnotes contain valuable

historical details which, considering the date at which they were taken down, add very materially to the value of this book. The sailing directions, or "lists of compass bearings", are among the most important features of Huang's work, for they enable us to locate with a pretty close approximation a number of localities which would otherwise remain vague. The source of these directions to mariners is unknown to us; they may have been the work of Fei Hsiu, or they may have been taken from contemporary charts. This last supposition appears the more likely, for Huang's sailing notes agree very closely, even in their phraseology (with important material differences here and there) with those we find written on the fifteenth century map of George Phillips.¹⁾

The *Ssu k'u ch'uan shu tsung mu* (78, 18) says of this work:

"This book was written by Huang Shêng-ts'eng of the Ming whose literary name was Mien-tzu (勉子), a native of Wu hsien (吳縣) and a *ch'ü-jên* of the year *hsin-mao* of the Emperor Chia-ching (A.D. 1531).

"In the section *Wên Ch'êng ming* (文徵明) of the *Ming shih* there are notices on the various tributary nations of the Western Seas. There were twenty-three of them from Chau-ch'êng (Annam) to T'ien-fang (Mecca), a separate notice for each one, in which is given the distance thither, and a description of the customs, whether good or bad, the products, the implements in use, the peculiarities of language and dress.

1) The text reads: "I collated the statements of interpreters from such works as the *Hsiang yü*, the *Tung gai*, and the *Chia wei* (or sailing directions) and condensed them. (余乃摭拾譯人之言若星槎瀛涯錄位編約之). It has been thought that *Chia wei pien* was the title of a book, a "Sailing Directory"; this may be the case, but I think that the text admits of the interpretation I have given. I have never heard of any Chinese work exclusively devoted to sailing directions, but such directions are frequently met with both in the body of other works as, for example, in the *Chu-fan chih*, the present work, and the *Tung hai kang n'ao*, and on charts, as on the fifteenth century one already referred to. From such sources it seems probable that Huang took his "*chia wei pien*".

"On examining the section on foreign lands in the *Ming shih* it is perceived that the list of the tributary peoples as there given is not in agreement with the present book; this is because (Huang) Shêng-t'êng confined himself to describing only the countries visited by the eunuch Chêng Ho.

"At the end of the book there are two supplementary notices (跋) by Sun Yün-chia (孫允伽), a retired scholar of Tung-chou (東州), and one by a taoist priest, Chao K'ai-mei of Ch'ing-chang (清常趙開美). Yün-chia says that this work has never been printed before and that he had copied it from the original manuscript. K'ai-mei says that the style of writing in this book is very like that of the *Shan hai ching* ("Mountains and Seas Classic"), and he considered it a very remarkable work.

"Ch'ien Ts'êng (錢曾) in his Notes and Comments (讀書敏求記) was of the same opinion, but notwithstanding this only the most important passages of it have been incorporated in the official history (of the Ming dynasty), the rest was omitted as of little importance".

The only edition I know of this book is that contained in the *Yüeh-ya-t'ang tung-shu* (粵雅堂叢書) published in 1853 by Wu Chung-yao (伍崇曜) of Nan-hai (南海) where it is found in the third section with a Postface by the editor dated 1850. It only refers briefly to the supplementary notices of Sun Yün-chia and Chao K'ai-mei, and in that, and that only probably, differs from the edition of the Imperial Library.

This work is divided into three chapters in which twenty-three countries or localities are described as follows:

Chapter I.

1. Chan-ch'êng (Annam)¹).
2. Chên-la (Kamboja).
3. Chao-wa (Java)²).
4. San-fo-ch'i (Palembang).
5. Man-la-ka (Malacca).
6. P'o-ni (Borneo).
7. Su-lu (Sulu Islands).
8. P'êng-hêng (Pahang).
9. Liu-k'iu (Lewchew Islands).

Chapter II.

10. Hsien-lo (Siam).
11. A-lu (Aru, Sumatra).

12. Su-mên-ta-la (Acheh, Sumatra).
13. Nan-po-li (Lambri, Sumatra).
14. Liu shan (Maldivé Islands).
15. Hsi-lan shan (Ceylon).
16. Pang-ko-la (Bengal). ✓

Chapter III.

17. Hsiao Ko-lan (Quilon). ✓
18. Ko-chih (Cochin). ✓
19. Ku-li (Calicut). ✓
20. Tsu-fa-erb (Djofar, Arabia).
21. Hu-lu-mo-esü (Ormuz).
22. A-tan (Aden, Arabia).
23. T'ien-fang (Mecca)³).

W. F. Mayers began the translation of this work, but unfortunately he never finished it, a translation of the first chapter (Chan-ch'êng) with valuable elucidations and notes being, I believe, all that appeared. See *China Review*, III (1874, '75), pp. 219—225, 321—331. "Chinese Explorations of the Indian Ocean during the fifteenth century". I am not aware that any other scholar has since then made use of Huang's valuable compilation. ✓

I referred previously to another contemporaneous account of the countries visited by the Chêng Ho mission, but which I have been unable to procure; it is the *Hsi yang fan kuo chih* (西洋番國志) or "Description of foreign countries of the West". It bears date 1432, which is very nearly the date we must assign to the appearance of the work of Ma Huan. It antedates by four years Fei

1) This chapter has also short notices on Ling shan (Cape Sanho), K'un-lan (Pulo Condor), Tung-hai chu (Anamba Islands) and Tan-yang (Damian River, Sumatra).

2) This chapter has also brief references to Chiao-lan shan (Géram Island, Borneo) and to Chung-ka-lo (Janggolo, Java).

3) There is an interesting notice on Medina in this chapter.

Hsin's book, and by probably about the same number Chang Shêng's amplified edition of the *Ying yai shêng lan*.

The "Notices on books in the Imperial Library", (78, 14—15) says of this book that it is in one chapter and that it was written by Kung Chên (鞏珍) of Ying-t'ien (應天) during the Ming period, of whose official career nothing is known. It then goes on to say:

"During the reign of Yung-lo (1403—1423) the eunuch Chêng Ho and others were sent by Imperial orders on missions to the Western Seas, and when Hsüan-tê succeeded to the throne (Chêng) Ho, Wang Ching-hung and others, were again sent beyond the Sea to make known to foreign nations the Imperial commands. At this time the writer of this book, Kung Chên, was a secretary on the staff of the mission, and for three years on his journeys.

"He has described the following countries, Chan-ch'êng (Annam), Chao-wa (Java), Hsien-lo (Siam), Ch'in-chiaug (Palembang), A-lu (Aru), Mau-la-ka (Malacca), Su-mên-ta-lâ (Sumatra) Na-ku-erh (the Battaks), Li-tai (Lidé), Nan-po-li (Lambri), Liu-shan (the Maldive islands), Pang-ko-la (Bengal), Hsi-lan (Ceylon), Hsiao Ko-lan (Quilon), Ko-chih (Cochin), Ku-li (Calicut), Tso-fa-erh (Djofar), Hu-lu-mo-ssü (Ormuz), A-tan (Aden), and T'ien-fang (Mecca); in all twenty countries.

"For all that concerned the local customs and products he consulted the interpreters and put down in full and clear Chinese all that was out of the way.

"In the 9th year of Hsüan-tê (1434) he prepared his notes for publication. They resemble closely the section on foreign countries of the *Ming shih*. It may be that the (*Ming*) *shih* took from this book".

The only other work which I have been able to find which contains anything of importance concerning the subject of this study is the *Yü ti chung t'u* (輿地總圖) by Shih Ho-chi

(史 霍 冀), the preface of which bears date 1564. In the second volume of this work (pp. 85-86) are found two large maps with the title of "General map of the countries of the Barbarians of the eastern and southern seas", and "General Map of the countries of the Barbarians of the southern and western seas". They contain a vast number of names of places which I have never met with before, and dispose them in a nearly purely arbitrary way over the surface of the sea. It would be interesting to determine the sources of information drawn from by the compiler of these maps, but I know of no way of doing so. They mark considerable progress over the fifteenth century map made known to us by George Phillips, and, as specimens of early Chinese cartography are very rare, these may prove of some value, or at least interest, to students. The text of this Geography contains nothing of interest to the purpose of these researches.

The biography of the eunuch Chéng Ho, or San Pao Tai-chien (三保太監) as he is also called, the leader of the expeditions in which Ma Huan, Fei Hsin, and Kung Chên took part, is contained in the History of the Ming Dynasty (*Ming shih*, 304, 2-3). It has been translated by Groeneveldt in his *Notes on the Malay Archipelago*, 41-45, so I shall only refer to it briefly here.

It appears that Chéng Ho was sent on the following seven missions to Indo-China and beyond:

1. In 1405, returning to China in 1407.
2. In 1408, " " " 1411.
3. In 1412, " " " 1415.
4. In 1417, " " " 1419.
5. In 1421, " " " 1421.
6. In 1424, " " " 1425.
7. In 1430, date of return not stated.

He is said to have visited officially thirty-seven (six) countries or localities. Their names are given in the following order, or rather disorder:

*Chan-ch'êng (Annam).

*Chao-wa (Java).

*Chên-la (Kamboja).

*Chiu-chiang (Palembang).

*Hsian-lo (Siam).

*Ku-li (Calicut).

*Man-la-kia (Malacca).

P'o-ni¹⁾ (Brunei, Borneo).

*Su-mên-ta-la (Acheh, Sumatra).

*A-lu (Aru, Sumatra).

*Ko-chih (Cochin).

*Ts Ko-lan (Kain Kulam).

*Hsiao Ko-lan (Kulam, Quilon).

Hsi-yang So-li (Southern Coromandel coast?).

So-li (Coromandel).

Kia-i-lê (Cail).

A-po-pa-tan (Jurfattan?).

*Nan-wu-li (Lambri, Sumatra).

Kan-pa-li (Cambay).

*Hsi-lan-shan (Ceylon).

*Pêng-h'êng (Pahang).

Chi-lan-tan (Kelantan).

*Hu-lu-mo-seh (Ormuz).

Pi-la (error for Pu-la-wa (?), Brawa).

*Liu shau (Northern Maldives).

Sun-la (error for Sun-ta, Sunda).

1) The inclusion of P'o-ni in the list of countries visited by Chêng Ho appears to be an error, see *supra* 47 (1), Note.

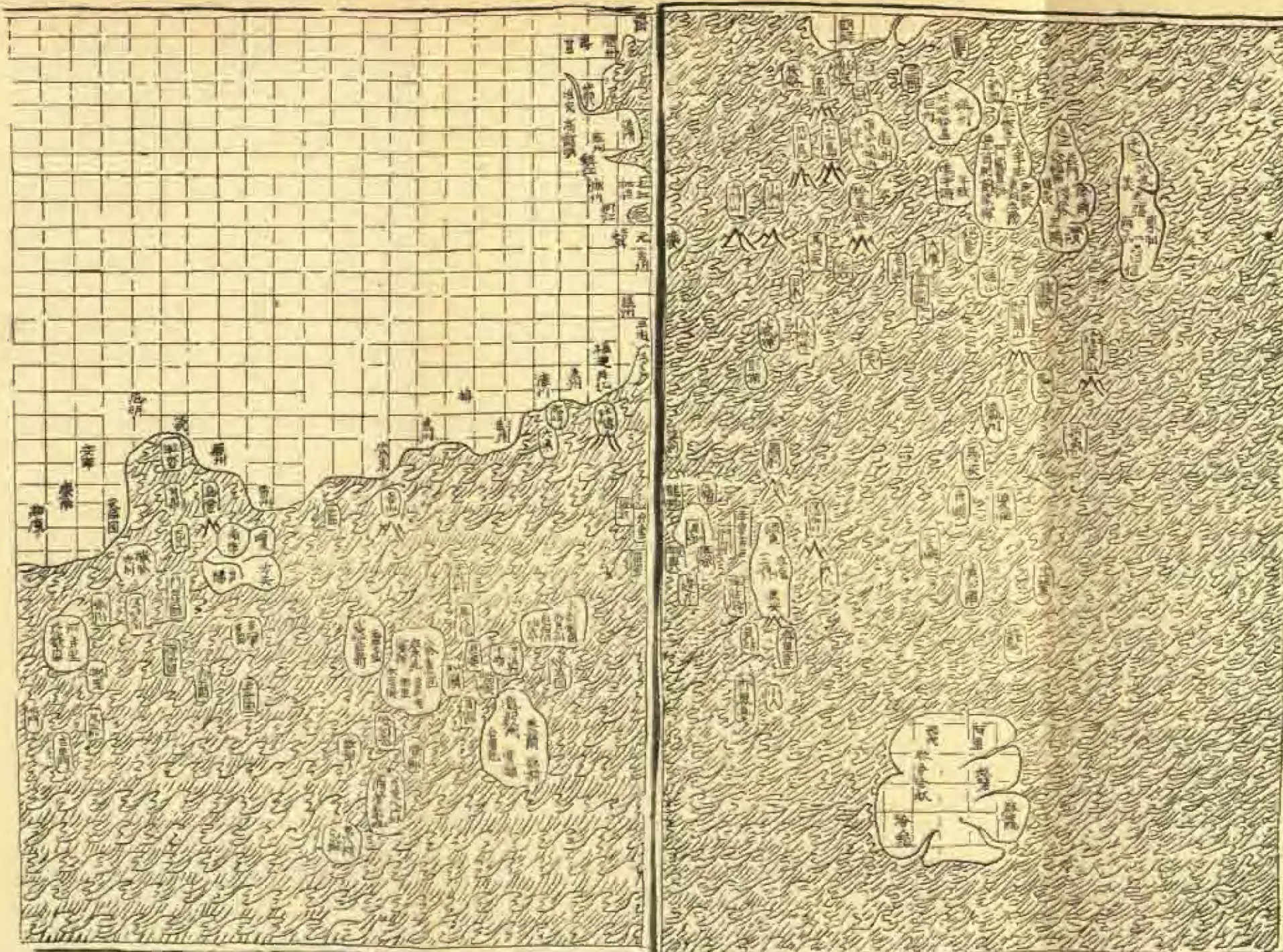
東南海夷總圖

界內每方四百里界外海
中風迅不常難以里載

黃輿圖

卷之二

金



1. General map of the Barbarians of the south-western Seas.

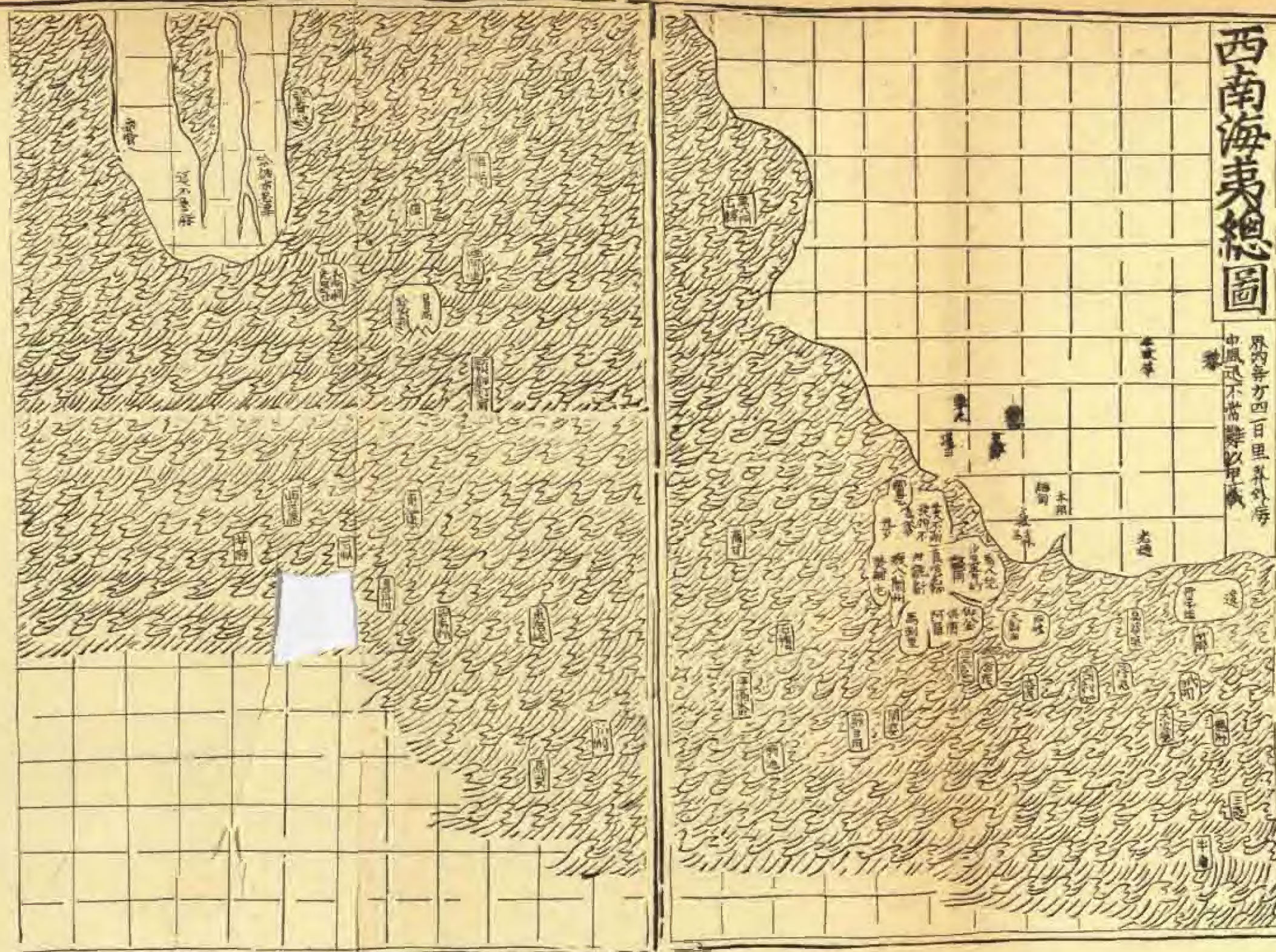
(Scale of 400 li to the square on the mainland).

From *Fu ti tsung-to*, A.D. 1564.



西南海夷總圖

界內每方四百里其外海
中風氣不常難以甲乙



II. General map of the Barbarians of the south-western Seas.

(Scale of 400 *li* to the square on the mainland).

From *Yü ti tsung-lu*, A.D. 1564.

*Mu-ku-tu shu (Mogadosho).

Ma-lin (Melinde).

*La-sa, some port near Ma-lin.

*Tsu-fa-erh (Djofar, Arabia).

Sha-li-wan-ni (in Northern India).

*Chu pu (Jubo).

*Pang-ko-la (Bengal).

*T'ien-fang (Mecca).

*Lá-fa (Lidé, Sumatra).

*Na-ku-erh (Nagur, Sumatra).

Of these thirty-six places (for Lambri is mentioned twice in the list, once as Nan-wu-li, once as Nan-po-li), twenty-five are referred to by Ma Huan or Fei Hsin. These I have marked with an asterisk.

Concerning the eleven others we learn from the *Ming shih* (325, 10) that Hsi-yang So-li, and Soli were contiguous countries, and of similar customs. Kia-i-lê (Cail) which the same work (326, 10) says was visited by Chêng Ho in 1408 and again in 1412, and which was a small country of the Western Ocean, was, it seems likely, in Hsi-yang So-li, or Southern Coromandel.

As to Kan-pa-li, the *Ming shih* says (*loc. sup. cit.*), that it was a small state of the Western Ocean near A-po-pa-tan and Hsiao Ko-lan (Quilon); I venture to think the former was Cambay and the latter Jurfattan of the Arabs, the Sha-li-pa-tan of the *Tao i chih li*.

There seems little room for doubt that the Ma-lin visited by Chêng Ho was Melinde north of Mombasa. The *Ming shih* (326, 9) does not say that Chêng Ho visited it, but it records the coming of a mission from that country in 1405 which brought a giraffe as a gift to the Emperor.

Sha-li-wau-ni was in Northern India but I cannot identify it.

It sent a mission to China in 1416 and Chêng Ho accompanied the mission back the next year.

Although Chêng Ho is the most famous of the eunuch envoys abroad in the beginning of the fifteenth century, he was not the first. In 1403 Ma Pin (馬彬) was sent on a mission to Java, Aceh, Calicut, Quilon, and other place. Wu Pin (吳寶) and Ch'ang K'o-ching (常克敬) were also sent on official missions by sea at about the same time.

The famous eunuch traveller Hou Hsien (侯顯), whose biography occurs in the *Ming shih* immediately after that of Chêng Ho and who had several times between 1403 and 1413 been on missions to Tibet and Nepal, went in 1415 by ship on a mission to Eastern India. The *Ming shih* ranks him next to Chêng Ho among the famous Chinese envoys of this period.

As the Records of the Western world (西域記) of the famous buddhist pilgrim Yüan Chuang in the VIIIth century were used at a later date as the basis for a romance of adventure entitled *Hsi yü chi* (西遊記) which is still very popular in China, so the voyage of Chêng Ho, or rather the narratives of Ma Huan, Fei Hsin, and Kung Chên, were used in the latter part of the XVIth century by Lo Mou-têng (羅懋登) in writing a fantastic narrative of these voyages, to which he gave the title of *Hsi yang chi* (西洋記).¹⁾

1) See Wylie, *Notes on Chinese Literature*, 163. He says this book is in 100 chapters (later the *Hsi yü chi*) and that it was finished in 1597.

I.

Indo-China. Malay Peninsula. Sumatra.

Annam and adjacent localities.

I (1). *Tuo i chih li*. 8. CHAN-CH'ENG (占城) Annam.

It is an important sea-port near Hsin (and) Chiu-chou (新舊州).¹⁾

The climate is not with sudden alternations. The soil is middling to inferior, suitable for raising cereals.

The people are given to piracy. Every year about New Year the people are allowed to take the gall of living beings to sell to the officials who buy it with money, mix it with spirits, and drink it with the members of their families, for they say that by this means the whole body becomes steeped with gall (*i. e.*, with courage), that people fear them and also that they will not have the plague (疰癘).²⁾

Below the city (of Ayuthea?) there are many eddies in the water and junks going up or down are detained for days. Women come on board (incoming) junks and keep company with the sailors, and when they sail again they shed tears on leaving them. The following year when the sailors come back they keep them company as before. If it happens that one (of them) gets to this country when his luck is bad, then the women, for the sake of her old affection for him, will give him food and clothing, and

1) Conf. the account of the *Tung yai shih lan*, *infra*. According to G. Maspero, *T'oung Pao*, XII, 469. Hsin-chou is the present Cri Banou. See also Pelliot, *BEFEO*, IV, 202-208.

2) I have translated *ts'ü-ü* by plague, without any authority, however, for so doing. It may be any disease accompanied by ulcers and swollen glands, so far as I can gather.

when he leaves she will speed his parting with many presents, for nothing can shake their faithfulness.

They (the women) wear a semi-Chinese dress, and anoint their bodies three or four times a day with an oil of camphor and musk.

They write their official documents in white characters on black leather.

They boil sea-water to make salt, and ferment millet (小米) to make spirits.

The native products are dark red *K'ieh-lan hsiang* (茄藍香, calambac wood), and *ta pu* cloth (打布).¹⁾

The goods used in trading (here) are blue porcelain, decorated cups, gold and silver head ornaments, wine cups, beads, and the like.

1 (2). *Ying yai shêng lan*. 1. CHAN-CH'ENG 占城).

This country is south of the Sea of China (大海). To the south it confines on Chên-la (Kamboja) to the west it confines on Kiao-chih, and to the north-east it borders on the sea.

Travelling by ship in a south-westerly direction from Wu hu-mên (五虎門) of Ch'ang-lo hsien (長樂縣) in Min (i. e., Fu-kien)²⁾, with a favourable wind one can reach this country in ten days.

1) *K'ieh-lan hsiang*, calambac wood. This term for eagle-wood was not apparently used by the Chinese before the Yuan period. In the *Fing yü shêng lan*, *infra*, it is written 伽南 *K'ieh-nan*, and in the *Hsing ch'a shêng lan*, *infra* 棋楠 *K'i-nan*. In the 10th century *Tung Ai yang k'ao*, 2, 6* it is also *K'i-nan* (奇楠). On calambac, see Yule and Burnell, *Glossary of reference*, 110.

As to the product of Chan-ch'eng called *ta-pu* I have been unable to find any explanation as to its character. It must have been a cotton fabric. It occurs in a number of passages of the *Tao i chih lü* but always without explanation, *CL infra*, 3-4 (1), n. 3.

On Chan-ch'eng in the Yuan period, see *Yüan shih*, 210, 6°-10°, and G. Maspero, *Le Royaume de Champa* (*Toung Pao*, XII, 455-482, 559-626, and XIV, 153-206).

2) Ch'ang-lo Hsien in Fu-chou Fa is Fu-kien province. Mu Hsuan uses throughout his

North-east of the capital over an hundred *li* there is a harbour called Hsin-chou Chiang (新洲港, Quinhon). On the shore of the harbour has been built a stone pagoda to mark out arriving junks where to moor. There is a military post called Mo-pi-nai (沒比奈) where there are two officers and fifty to sixty soldiers as a special guard.

An hundred *li* to the south-west is the capital, which is called Chan-ch'êng. There are four gates in the city-wall and the gates are defensible. The king is a So-li man (鎖里人).¹⁾ He follows the doctrine of Shih (*i. e.*, Çakyamuni). On his head he wears a cap with three gilt peaks with pendant jewels. His upper garment is of foreign flowered cotton stuff like light brocaded silk in texture. He wraps a number of times around his lower parts an embroidered silk scarf. He goes bare-footed. He rides on an elephant or in a small cart with two yellow calves (以二黃犢).²⁾

His ministers wear hats of kajang leaves³⁾, like the king's in shape, but with gold embroidery. Their hats vary with their official rank. Their upper garment does not reach below the knee, the lower one is an embroidered scarf tied around the waist.

The king's palace is spacious, the walls plastered and in good

work the terms 舟 or 船, which I have translated "ship" or "junk". In the metrical preface to his work in Chang Shêng's edition, Ma Huan in one passage makes use of the term *tsung* (粽) instead of *pu* (船). The word *tsung* is apparently derived from the Malay *dyung* our "junk", and is an unauthorized character; I have not met with it in any work earlier than that of Ma Huan. Cf. W. F. Mayers, *China Review*, III, 329, where he has an interesting note on the junks in the time of the early Ming, based on the work of Chu Yün-ming (祝允明, 1460—1520), entitled Chien-wên chî (前聞紀).

1) Literally a Chola from the Coromandel coast, but here meaning, probably, that the king was of Indian descent. See *infra*, 5 (2), 25 (2), 55 (1); cf. Hirth and Rockhill, *Chou fou chi of Chou Ju-tsu*, 98, n. 1.

2) Cf. *Sung shih*, 489, 2^o (Chan-ch'êng), also *Chia-la-fing t'u chi* of Chou Ta-kuan, Pelliot, *BEFEO*, II, 145—146. *Hsi yung chiao kung tiao lu*, I, 1^o (Chan-ch'êng) has "he rides on an elephant or in a small cart with two bullocks".

3) See *Tung sui shêng lun*, 5 (Man-la-kia), *infra*, 11 (1).

condition. At the gates are upright carved wooden animals to give an appearance of dignity.

The people live in thatched huts which may not exceed three feet in height which they must go in and out of with bended body. Those who disobey this are subject to punishment. Their clothing is dark brown (or violet 紫), but the king's is white. It is forbidden to wear clothes of black or yellow; those who disobey are put to death. The men cover their heads, the women do up their hair in a knot behind; they are quite black in colour. Their upper garment is a short shirt with tight sleeves, the lower is a piece of embroidered cotton stuff wrapped around them. All the women wear this dress. Men and women go bare footed.

The four seasons of the year are all hot, and there is neither frost nor snow. Vegetation is constantly green. Like the people of Min and Yüeh (*i. e.*, of Fu-kien and Kuang-tung) they never stop chewing betel-nut.

In settling a marriage the man in the first place goes to the woman and consummates the union (成偶). After ten or fifteen days on a sudden the parents and relations come preceded by players of drums to welcome and escort back (the bride to her new home), where they get ready liquor and the mats (*i. e.*, a feast). As to the liquor they wait till the rice in the fermenting jar has matured when they use tubes to suck it up; host and guests all gather around the jar at one and the same time and suck away in a steady stream. The flavour (of this liquor) is excellent.¹⁾

In writing they do not use paper but write only on sheep skin or on black bark.²⁾

1) Cf. *Hsing ch'a shêng lan*, *infra* 1 (3), and *Hai yang chao lung tien la*, as translated by W. F. Mayers, *China Review*, III, 323. It says this liquor was called (by the Chinese) *wóng chiu* (甕酒).

2) My text reads 以椎羊皮及黑木皮書之. I have assumed that the second character should be 惟.

Their light form of punishment is to bind with rattans, their severer one to cut off the nose. Robbers have their arms cut off. As to adultery both the man and the woman are burnt on the cheeks. The extreme form of punishment is to place the criminal on a seat with a sharp pointed piece of wood which enters gradually into him and finally comes out of his mouth so that he dies.¹⁾

They have no intercalary month. A day and night are divided into fifty divisions which are marked by the drum.

A king on the days when he receives congratulations (*i. e.*, on the New Year) washes with human gall; the principal chiefs (將領) presenting him with men's galls to perform the ceremony.²⁾

When the king has reigned thirty years he becomes a hermit for the purpose of fasting and penance, and he commands his son or his nephew (子姪) to be regent of the kingdom. When a year has passed then he invokes Heaven with an oath, saying: "If I had heretofore done wrong (我不道) the tigers and wolves would have been able to devour me or I would have died of illness, but for the space of a year no ill has befallen me", and with that he resumes his sovereignty. Thereupon the people of the kingdom shout out: "*Fang-li ma-ha la-cha*" (芳嚟馬哈喇札), which is giving him the highest title.³⁾

They have (in this country) things called *shih-chih-yü* (屍致魚). They are women but their eyes are without pupils. In the depth of night their heads fly off and enter people's dwellings and eat the

1) Cf. *Sang shih*, 480, 3 (Chan-ch'êng).

2) Cf. *supra* I (1), and *infra* I (3). See also W. F. Meyers, *op. sup. cit.*, 324.

3) Mr. Otto Hagden writes me that Professor Antoine Cahaut of the Ecole des Langues Orientales suggests — but with great diffidence — that *fang-li* is the Cham word *panjik*, *panrik*, "to exalt", and that the phrase would be *panrik mahādja*, a sort of "long live the king!" Mr. Hagden says that in Aymeret's and Cahaut's Dictionary occurs the word *panrik*, "seigneur, monsieur". *Hsi yang chao tung tien lu*, I, 3^o (Chan-ch'êng) reads *hi-li ma-ha la-ja* (昔嚟馬哈喇札) which is *gr-mahā rāja* "Most high Prince". — This is, I fancy, the correct reading.

little children's excrement, when their breath affects the children's bellies so that they die. (Then) the heads go back and are reunited with the bodies as before, but if the bodies have been moved then they cannot unite again and they die. If their husbands do not give information concerning them, they are criminal, they and their families.¹⁾

In this country there is a crocodile-pool. Persons who wish to clear up some litigation difficult to solve go to this pool, and those who are in the right way may cross it many times without meeting with any danger (from the crocodiles).²⁾

On the hills along the coast there are very vicious wild cattle. If one of them meets a person dressed in blue (or black) clothing, he gores him nearly to death. Should a domestic ox escape to the hills for a long time afterward he retains the savageness (which he has there acquired), so the people weigh down his head (重其首), so that if he attacks anyone he will not kill him.

1) *Shih-chih yü*, literally "corpse-making-fish" represents probably some local form of the Sanskrit word *pisatāśa*, "vampire". In the *Tao i chih liu*, 10, *infra*, 10, these vampires are called *Shih 'ou Mau* 尸頭蠻女 "Death-head Barbarian women". *Fing yü shing tsu* (Man-lu-kia) has also the form *Shih 'ou Mau* (屍頭蠻). The earliest reference I have found to these vampires in Annam and adjacent countries is in the *Fu yang tsu tsu* (1Xth century) where we read (4, 6): "Among the K'i-tung (aborigines, 溪洞) of Ling-nan (Kuang-tung and Kuang-hai) there are often persons with flying heads. In olden times there was a man called Fei 'ou lao-tan ("the old fellow with the flying head". Some editions of the *Fu yang tsu tsu* read Fei 'ou Liao-tzu (獠子), "the Liao-tzu (aborigines) with the flying head". When his head was about to fly off there would appear the day before a scar encircling his neck and looking like a red thread. When his wife and children would see it they would watch him. In the night the man would seem to be ill when suddenly wings would appear on his head, and it would separate from the body and go off to the mud flats along the shore and search for crabs and earthworms and such like things to eat. At dawn it would come back, and the man would awaken as if from a dream feeling all right in his stomach". *Hsi yang chao tsung tien lu*, 1, 2^b (Chen-ch'ang) says they ate babies.

Conf. also L. de Rosny, *Peuples orientaux connus des anciens Chinois*, 149—153, and W. F. Meyers, *China Review*, III, 323—325.

2) See Hirth and Rockhill, *op. sup. cit.*, 48.

They use gold and also silver in trading. They prize extremely Chinese blue porcelain, and likewise also satins and silks, which they buy with money whenever they see any.

The native products are calambac wood (伽南香), *kuan-yin* bamboos (觀音竹), laka-wood, and ebony (烏木) superior to that of other countries.

As to *k'ieh-nan hsiang* though found in this country its price is high. *Kuan-yin* bamboo is like a rattan (籐) over eighteen feet long, of an iron coloured blackness and in every inch there are two or three knots.

Rhinoceros 'horns and elephants' tusks are plentiful. The rhinoceros is like the water-buffalo, the large ones reach eight hundred catties (in weight). Their bodies are hairless and black, their scale-like skin is thick. Their hoofs are cloven. They have a single horn on their snouts about a foot and five inches long. They only eat the leaves pulled off trees and pieces of dry wood.

(They have also) horses the size of donkeys, water-buffalo, domestic cattle (*lit.*, yellow cattle), swine and sheep (or goats). They have likewise geese and ducks; the largest of their fowls does not weigh over three catties.

As to fruit they have plums, oranges, water-mellons, sugarcane, cocoa-nuts and bananas.

Their jack-fruit is like a gourd. The lichee is the size of a hen's egg, the skin is yellow, the taste very sweet; its seed can be roasted and eaten.

As to vegetables they have gourds, cucumbers, bottle-gourds,¹⁾ the mustard plant, onions, and ginger.

The people occupy themselves with fishing and not with agriculture. The grain of their rice is small, elongated and reddish.

1) *Hu-lu* (胡蘆), I presume is the same as 壺 (or 壺 or 瓠) 蘆. See Bretschneider, *Botan. Sinicum*, Pt. 2, 198, N° 334.

The tribute (brought to China from Chau-ch'êng) consists of rhinoceros' horns, elephants' tusks, calambac wood.

1 (3). *Hsing ch'a shêng lan*. 1. CHAN-CH'ENG (占城).

In the 7th year of Yang-lo (A.D. 1409) the Emperor Tai-tsung appointed as envoys the eunuchs Chêng Ho, Wang Ching-hung (王景宏) and others to take command of over 27,000 soldiers and 48 sea-going junks and to proceed abroad to explore and to bestow Imperial gifts.

In the autumn of that year in the 9th moon they set sail from Liu-chia bay (劉家港) of Tai-ts'ang (太倉). In the 10th moon they arrived in Tai-p'ing bay (太平港) in Ch'ang-lo hsien (長樂) in Fu-kien and anchored. In the 12th moon they put to sea from Wu-hu (-mên, 五虎門), and with all sails set and a favourable wind they came to the kingdom of Chau-ch'êng in twelve days.

This kingdom has a harbour called Hsin-chou (新州) near the sea. To the west (Annâm) reaches to Kiao-chih (交趾, Tongking), to the north it adjoins China. Sea-going ships come here (to Hsin-chou).

The sovereign wears on his head a three-peaked, gold-ornamented cap (三山金花冠), over his body is thrown (披) a brocade shawl (手巾), on his wrists and ankles are gold rings, on his feet he wears tortoise-shell sandals. Around his waist is bound a bejewelled girdle (八寶方帶); he looks like a doll covered with diamonds.¹⁾ He rides on an elephant, around him crowd over 500 soldiers, either holding spears, swords, or short

¹⁾ The text reads 如粧塑金剛狀, I do not feel sure that I have caught the sense of this. Conf. this passage with *supra* 1 (2).

guns, or dancing with tambourines, beating drums, or blowing on cocoa-nut shell pipes (筒). His chiefs all ride horses.

He came out of the city to receive the Imperial commands, got off his elephant, knelt, and crawled on his knees (行匍匐). Touched by the Imperial bounty he presented articles of tribute.

This country has great numbers of elephants and rhinoceros. Tusks of ivory and rhinoceros horns are more plentiful than in any other country. Calambac wood (棋楠香) grows on a certain mountain; the officers of the ruler forbid the gathering of it, and those who disobey have their hands cut off.¹⁾

There is ebony and also laka-wood which they burn as fuel.

There is neither frost nor snow; the climate is constantly as hot as in summer and vegetation is always green, now in flower, now in fruit. They boil sea-water to make salt. The rice is very poor. The natives eat betel-nut which they wrap in sirih leaves with lime of shell-fish; whether walking or sitting or lying down, they are never without it in their mouths.

The New Year begins when they see the new moon; and so it is with the ending of the (preceding) month. The (completion of) ten(?) waxings and wanings of the moon makes a year.

They are fond of beating the drum day and night. Their rule is that ten watches make a day. The sovereign and common people do not rise before noon and do not go to sleep before midnight. When they see the (new) moon they make merry, drinking, singing, and dancing. Where the sovereign resides rooms, doors, and walls are all made of bricks and mortar, and hard woods carved with designs of animals.²⁾ Around the outside are walls. There is also a city-wall and suburbs. The soldiers equipment comprises poisoned arrows, spears, etc.

1) Conf. Chao Jia-kua's statement, Hirth and Rockhill *op. sup. cit.*, 48.

2) Conf. *supra* 1 (2).

The houses of the chiefs are orderly arranged, the height of the doors is limited.¹⁾ The common people make their dwellings with coverings of plaited reeds.

They will not eat fish before it is rotten, nor do they consider liquor good before maggots have appeared in the ferment. They throw some pellets (of ferment) in the rice, mix them dry and put them in an earthenware jar, regularly seal it up and put it aside. After some days, maggots having appeared in the grain, the fermentation has been completed, so on a day they unseal it using a section of bamboo three or four feet long which they stick into the grain in the jar. Five men may sit around it, and they put more or less water according to the number of people. Each one in turn sucks up the liquor through the bamboo into his mouth. When it has all been sucked up they add water. If it has no longer any taste they stop, if it still retains any flavour they seal it up keep it for another time.

The ruler to lengthen the years of his life gets the gall of a living man and, having mixed it with liquor, drinks it, he, and the members of his family; It serves also to cleanse the body, for it is said that the whole body is (made) of gall.

There are the *Shih-tou Man* (尸頭蠻, "Corpse-headed Barbarians"). In the first place they are ordinary women, they only differ from other people in having no pupils to their eyes. When these women are asleep with their husbands their heads fly away in the dead of night and go and eat human excrement, after which they come back again and join on to their bodies which become just as alive as before. When people are ill and feel a desire to go to stool (if) the evil spirit (妖氣) enters their bodies they surely die.

Such women are rare among the people, but if anyone should

1) This is made clear by reference to the parallel passage in Ma Huan's work, *supra* 1 (2)

not inform the officials of the existence of one, it would be a criminal offence for him and his whole family. The natives play tricks on these heads.¹⁾ They are hated both alive and dead.

Both sexes do up their hair in a chignon behind the head, and wrap around it a chintze turban. They wear a short cotton shirt and around their waists a scarf of chintze (花布手巾).

They do not use writing brushes or paper, but they cover a thin piece of sheep-skin wit soot and sharpen a small piece of bamboo for a style which they dip in lime (-water) to write their characters with; these are like wriggling earth-worms. The language is like the chirping of birds,²⁾ interpreters have to translate it.

2 (1). *Tao i chih ho*. 51. LING SHAN (靈山). Cape Sa-hoi.

The mountains (covering it) are lofty and square (面方).³⁾ Springs in the rocks flow babbling down. The people live scattered about like stars. They gain their livelihood by fishing with nets.

The soil is virgin (田野), when broken for tillage it gives two crops in the year.

When junks come here the sailors faste and bathe and for three days they worship the Buddha, read the scriptures, light lamps to put on the water, and let go paper junks, seeking to avert calamities from their ships before going any further.

The customs, the climate, the natives, are all as in Chau-ch'êng.

The native products include a kind of creeper the best variety

1) I suppose the trick played on the flying head was that mentioned in the parallel passage of the *Tao i chih ho*, 10 (Pin-t'ung-lung) of putting a piece of paper over its neck so that it could not join on to its body.

2) The text reads 言詔燕獸全憑 "Their language is nothing but swallows' and tailor-birds' (chirping)".

3) Geo. Phillips says Ling shan was Davaich Head, Pelliot says it is Cape Sahoi, N. of Quinhon. Others identify it with Cape Varais.

of which has fine black marking arranged symmetrically upon it. Each piece is worth (a block) of tin.¹⁾ The larger kind which has marking more spaced is worth (a block) of tin for three pieces.

Passing junks stop a day or so here for getting a supply of water and gathering fuel, and also for procuring betel-nuts and sirih leaves. There are no other noteworthy objects.

The goods used in trading are coarse cups, beads, pieces of iron, and such like things.

2 (2). *Hsing-ch'a shêng-lan*. 2. LING SHAN (靈山).

This locality is near the country of Chan-ch'êng. This mountain (山 or island) rises in lofty summits and is square. There are streams which flow down and wind around it like a girdle. On the top of the mountain there is a rock like a Buddha's head, hence its name of Ling shan or "Divine Mountain". The people live scattered about like stars. They fish with nets for a living. The soil is rich and they have two crops a year. The climate is temperate. In appearance both sexes greatly resemble the people of Chan-ch'êng.

The native products include a kind of creeper (rattan) with black marks arranged symmetrically in pairs. Each piece is bartered for a block of tin. If large sized with marking far apart it exchanges at a block of tin for three pieces.

There are also betel-nuts and sirih leaves, but no other noteworthy products.

Passing junks must get fuel and water here. The sailors, having fasted and bathed for three days, worship the Buddha and offer

1) According to the *Hsing ch'a shêng lan*, 13. (Man-lu-kia, *infra*, 11) (2) a block of tin weighed one catt four ounces (*tsau-ping*).

prayers and set on the water lighted lamps and painted boats to avert calamities from men and junks.

3 (1). *Tao i chih li*. 10. PIN-T'UNG-LUNG (賓童龍). Panrang.

Pin-tung-lung is under the dominion of Chan-ch'êng. Its general natural conditions (土骨) are similar to those of Chan-ch'êng. There is a stream with two branches which flows through it.

This is the place called in Buddhist books Wang-shê ch'êng (王舍城). It is also said that the foundations of Mu-lien's cottage (目連屋基) are here.¹⁾

The soil, the people, their customs, and the climate are as in Chan-ch'êng.

When a person dies they put on mourning, have a religious ceremony and choose a secluded spot in which to bury him.

The sovereign of the country rides an elephant or a horse with a red umbrella borne over him. His escort of over an hundred men bear shields and shout *ya* (亞) or *p'u* (僕), which are native words.

The *Shih-t'ou Man* women (尸頭蠻女) are more dreaded here than in Chan-ch'êng; so the people have many temple ceremonies and make sacrifices (to keep them off). These Man are born like any other children except that they have no pupils in their eyes. In the dead of night their heads fly away and eat human excrements and then fly back again. If a person manages to put a piece of paper or of stuff over the neck the heads on getting back (to their bodies) cannot join unto them again and they die. All the people of this country are careful after having had a stool to

1) See on this inexplicable legend shifting the well-known Kājagriha (Wang-shê ch'êng) and the hermitage of Maṇḍalyāyana (Mu-lien) to Panrang, Hirth and Rockhill, *op. cit.*, 51, and the authorities there cited. The *Hsing ch'ü shêng tsu* has Shê-wêi-k'ü-shih (Garastī?) instead of Wang-shê-ch'êng.

wash themselves clean or the Man will come to eat their excrement and will get in bed with them. If they accomplish this the person's bowels will be eaten up and his vital spirits will be so exhausted that he will die.

The local products are calambac-wood and ivory. The goods used in trading are silver and chiutzes.

Under it (次) are the tribes of Hu-ma-sha (胡麻沙), of Man-t'ou-lo-sha (曼頭羅沙), of Kieh-pao (犛寶), of Pi-ch'i (毗齊), of Hsin-ku (新故), and of Yüeh-chou (越州), but, as they have no native products, junks do not go there.¹⁾

3 (2). *Hsing ch'a shêng lan*. 4. PIN-T'UNG-LUNG (賓童龍).

This country is adjacent to Chan-ch'êng. It has a double branched stream whose waters are clear.

Buddhist books say that this country is Shê-wei-k'i-shih (舍衛乞食, Çravasti); the ruins of Mu-lien's dwelling are (still) revered.

The people, products, customs, vegetation, and climate, are much as in Chan-ch'êng, only in their funeral ceremonies they put on a mourning garment, then consult the Buddhas (*i. e.*, the gods) as to a place in which to bury the dead person.

In their marriages they pair (? 偶合).

When their ruler goes out he either rides an elephant or a horse, and as in Chan-ch'êng over an hundred men accompany him bearing (shields) and shouting "ya", (亞) and "p'u" (僕).

The natural products are calambac-wood and elephants' tusks.

1) I am not aware that any of these dependencies of Panrang have been identified; in the *Chou-fan ch'ia* (Chan-ch'êng), the names Liang-pao (亮寶), Pi-ch'i (毗齊) and Yüeh-chi (越裏) appear among the dependencies of Chan-ch'êng; they are evidently the same as the Kieh-pao, Pi-ch'i and Yüeh-chou of the text.

The goods used (by the Chinese in trading here) are gold, silver, and chintzes.

The common people weave reeds to cover their dwellings.

4 (1). *Tao i chih li*. 13. JIH-LI (日麗). Jarai(?)

Between two hills a barrier and market have been established.¹⁾ The land, though level, lies waste. The spring is cold, the summer rainy, so cultivation is carried on contrary to the seasons, and as a consequence the harvests are small and they have to count on other countries for food. In winter the climate is hot.

The habits and customs are moral. Men and women do up their hair in a knot and have a white cotton sarong and turban; around them they wrap a small piece of yellow cotton.

When a woman loses her husband she does not marry again.

They boil sea-water to make salt, and ferment treacle (漿) to make spirits. They have a ruler.

The native products include turtle-shells, cranes' crests, laka-wood and tin.

The goods used in trading are blue chinaware, chintzes, coarse cups, bits of iron, little prints, (*seven characters missing in the text*), and such like.

Siam and adjacent localities.

5 (1). *Tao i chih li*. 33. HSIEN (暹). Siam.

Leaving Hsin-mên-t'ai (新門台) the mouth of a river (港)

1) According to Chan Ju-kua, Jih-li was one of the dependencies of Annam (Chan-ch'ang).

Mr. Blagden writes to me: "I wonder whether Jih-li represents the Jarai, an inland, rather barbarous tribe not far removed from the Chams of the coast in point of distance and speaking a closely allied language. It seems possible if in the author's dialect the character for 麗 can be read *lai*, *loi* or *le*".

is entered; the outside hills are rough and jagged, the inner range is far away. The soil is poor, unfit for the cultivation of rice (穀米), so they count yearly on Lo-hu (羅斛, Lopburi). The climate is irregular.

The people are much given to piracy; whenever there is an uprising in any other country, they at once embark in as many as an hundred junks with full cargoes of sago (as food) and start off and by the vigor of their attack they secure what they want. (Thus) in recent years they came with seventy odd junks and raided Tan-ma-hsi (單馬錫) and attacked the city moat. (The town) resisted for a month, the place having closed its gates and defending itself, and they not daring to assault it. It happened just then that an Imperial envoy was passing by (Tan-ma-hsi), so the men of Hsien drew off and hid, after plundering Hsi-li (昔里).

(Again) in the year *hi-ch'ou* (己丑) of the period *chih ch'êng* (A.D. 1349) in the 5th moon in summer they fell upon Lo-hu.¹⁾

When a person dies they pour quicksilver into the body to nourish it. The dress of the men and women is like that of Lo-hu. Furthermore, in their trading they make use of cowrie shells as money.

The natural products are sapan-wood, tin, lacraban seeds, elephants' tusks, and kingfishers' feathers.

The goods used in trading (by the Chinese) are beads, quicksilver, blue cotton stuffs, copper, iron, and such like things.

1) This passage must have been inserted just as the *Tao i chih li* was about to leave the author's hands. The first preface to this book, written by San shan Wu chien (三山吳鑒) bears the date "12th moon in winter of the year *hi-ch'ou* of the period *chih-ch'êng*" (i. e., January-February 1350). On Tan-ma-hsi, conf. *Tao i chih li*, 40 (Lung-yu-men), *infra*, 22 (1).

5 (2). *Ying yai shêng lan*. 4. HSIEN-LO (暹羅).

The country is a thousand *li* square (*i. e.*, to the side), the mountains which surround it are all steep and rugged. The ground is damp, the soil is poor, barely fit for cultivation.¹⁾

The climate is not equable; it is either foggy or hot.

Sailing from Chan-ch'êng in a south-westerly direction for seven days and nights you arrive at the port of Hain-mên-(tai, 新門 [臺]) where you enter the mouth of a river (港 the Menam) which leads up to the capital (Ayuthyea).

The king's palace is handsome. The people live in raised buildings which are made of areca palm wood planks placed close together and tied with rattan, so that they are very strong. On this they place rattan and bamboo mats, and here they dwell.

The king is a So-li man;²⁾ he wears a white cotton turban on his head and no (upper) garment; around his loins he wraps an embroidered silk scarf held in place by a waistband of brocaded silk.

He goes out riding an elephant or in a sedan chair and a golden handled umbrella of kajang leaves is (borne over him). He is a believer in the doctrine of Çakya-(muni).

The people of the country who become bonzes and nuns are very numerous; their dress is of the style worn in China. They have nunneries and monasteries and observe fasts and penances.

It is the custom of the people to leave the married women much discretion; the husbands follow the advice of their wives. Should a married woman have a liaison with a Chinaman (the husband) remains calm and does not take exception to it.³⁾

1) This chapter has been translated by Geo. Phillips from the revised edition of the *Ying yai shêng lan* by Chang Shêng. *JCBRAS*, XXI, 34—38.

2) *Supra*, I (2). Ma Huan says that the king of Chan-ch'êng was a Chola.

3) Conf. *Tao i chih fo*, 321 (Lo-hu), *infra*, 8 (1), and 11 (Chên-lâ), *infra*, 6 (1); also *Chên-lâ têng 'n chî*, 25^b.

The men wear on their heads a white cotton turban, and they have a long garment similar to the women's; they do their hair in a knot. When the men have accomplished twenty years of age they must (wear an ornament on their heads?) inlaid with beads and precious stones (or jade). The pattern worn by the wealthy is of gold and ornamented with beads which have a tinkling sound which is much admired. If they do not then they are poor fellows.

As to their marriage ceremonies a bonze and a crowd of people escort the (future) son-in-law to the girl's house, then the bonze takes hold of the girl and makes a red mark on the man's forehead; this is called "Yi shih" (利市) (there are other details) so coarse that it is not proper to state them here. After three days the bonze and all the relatives and friends accompany them back (to the groom's house) bearing betel-nuts (and an) ornamented boat, when a feast is spread and they make merry.¹⁾

As to the funeral ceremonies, in the case of a rich person they pour quicksilver into him and bury him. In the case of a person of the common people they carry the corpse to an islet of the sea where numbers of golden coloured birds come down and eat it, then what is left is thrown into the sea: this is called bird-burial. They also have fasts of the buddhist religion and prayers as in Kuang-tung.

They are treacherous and are given to fighting on the water (i. e., to piracy); they are constantly attacking neighboring countries.²⁾

In trading they use sea-shells (cowries) just (as we do) copper cash.

The native products comprise the red *ma-k'en-ti* stone which is

1) See Pelliot in *BEFEO*, II, 153—154, and *suater Liang shu*, 5-4, 4* (Lin-i), *Sai shu*, 82, 2* (Lin-i), also *Tao i chih ho*, 11 (Chên-la), *infra*, 6 (1).

2) See *Tao i chih ho*, 33 (Hsien), *supra*, 5 (1).

inferior only to red *ya-hu* (i. e., ruby) and is as bright and shining as a pomgranate seed.¹⁾

North-west of this kingdom two hundred and odd *li* there is a market town (市鎮) called Shang-shui (上水), which communicates with the south. The inhabitants number approximately six hundred families.²⁾

All kinds of foreign products are found (in Hsien-lo): *huang-lien hsiang* (黃連香, rhizomes of *Coptis teeta*), *lo-ho lien hsiang* (羅褐連香),³⁾ laka-wood, and gharu. There is also rose-wood, cardamoms, lacrabau seeds, dragon's blood (? 血結), rattans, (藤結), sapan-wood, tin elephants' tusks, kingfishers' feathers. The sapan-wood is as cheap as fire-wood, its colour is unsurpassable.

Of animals they have (in Hsien-lo) the white elephant, lions, cats and white squirrels.

The vegetables and fruits are as in Chan-ch'êng.

They have rice-wine and cocoa-nut wine, both of which are distilled spirits.

Its tribute (to the Court of China) is sapan-wood and laka-wood.

1) This stone has not been identified, I believe; see Brutschneider, *Medieval Researches*, I, 174, where, quoting the *Chao k'ang lu*, he says it is a variegated stone, without lustre and is dug from the same mines as the red *ya-hu*.

2) Geo. Phillips, *op. cit.*, 37, has "A hundred *li* to the S.W. of this kingdom there is a trading place called *Shang shui* (上水), which is on the road to *Fan-hou men* (雲後門)". It seems to me that the text translated by Phillips must have meant that Shang-shui, wherever it was, was a small trading place in indirect communication ("a back gate") with Yün-nan. *Hsi yang chao k'ang T'ien lu*, 2, 2* (Hsien lo) understands it thus; it has "百貨咸集可通雲南之後".

3) Can it be that *lo-ho lien hsiang* is an error for *Lo-hu lien hsiang* (羅斛連香) "aromatic woods from Lo-hu and adjacent countries"? The eagle-wood from Lo-hu was famous.

5 (3). *Hsing ch'a shêng lan*. 6. HSIEN-LO (暹羅).

With a favourable wind this country can be reached from Chan-ch'êng in ten days. The hills (on the sea-coast) are high white rocky cliffs extending for a thousand *li*. The outer hills are rugged, the inner ranges are far remote. The land is level and fertile, the crops abundant. The climate is constantly hot.

In their ways they are domineering, and they esteem personal bravery. They make forays on neighboring countries. They make spears by sharpening areca-palm wood and have shields of water-buffalo hide, poisoned arrows, and other arms. The like particularly to fight on the water.

Both men and women do up their hair in knots and have white cotton turbans. They wear long shirts and wrap a coloured cloth around their loins.

High and low consult with their wives on all matters of business, after which the men reach an arrangement without any difficulty.¹⁾ The Chinese are very fond of (these Siamese women); when they have a jollification they will make merry with them, sing, and stay the night long.

Many of the women become Buddhist or Taoist nuns; they recite the prayers and observe the penances. The colour of their clothing is similar to that worn in China (by nuns). They erect various kinds of religious buildings.

They have a most strict mourning ceremonial. As soon as a person has drawn his last breath they pour quicksilver in the corpee to preserve it;²⁾ later on they choose a high mound of earth, where, after a religious ceremony, they bury it.

1) Conf. *Tao i chih ho*, 21 (Lo-hu), *infra*, 8 (1).

2) Conf. *Tao i chih ho*, 13 (Hsia-lai-wu), *infra*, 13 (1).

They ferment glutinous rice to make spirits, and boil sea-water to make salt.

The products are aromatic woods of Lo-hu (羅斛香), oil of lacrabau seed, sapan-wood, rhinoceros' horns, elephants' tusks, kingfishers' feathers, beeswax. They have a currency of cowrie shells, every ten thousand of which are equal to twenty (taels) in *chung-tung ch'ao* (paper money).¹⁾

The goods used (in trading here) are blue and white china-ware, chintzes, coloured light silks, coloured satins, gold, silver, copper, iron, quicksilver, beads and kittysols.

Its rulers, deeply moved by the far-reaching kindness of our glorious dynasty, constantly send missions to court with memorials written on leaves of gold and with tribute offerings.

Kamboja and adjacent localities.

6 (1). *Tao i chih liu*. 11. CHÊN-LA (真臘) Kamboja.

(The quarter around) the south gate of the city (of Chên-la, 州南之門) is the real trade centre. The wall of the city is over seventy *li* in circumference. A stone (banked?) river (石河) of over two hundred feet in width surrounds it.

They have over forty myriads of elephants for war, and some thirty temples which are wonderfully ornamented with gilded walls and sheets of silver for tiling (鋪銀爲磚). They have a chair

1) 中統鈔 or "paper money of the *chung-tung*" period of the Yüan. These notes were issued between 1260 and 1264 during the first years of Kublai's reign. Wang Tayüan says in speaking of Kiao-chih (Tongking) that among the people 67 copper cash of Kiao-chih were counted to one tael of *chung-tung* silver though the official equivalent was 70 cash. In Wu-tieh (Orissa) he says that the silver coin of the country, weighing two mace eight candarrens was taken for 10 taels in *chung-tung ch'ao* (paper money). The whole paragraph is copied from *Tao i chih liu*, 21 (Lo-hu), *infra*, 8 (1). *Hsi gang chao tung Tien lu*, 2, 3* (Hsien-lo) gives a long list of textile fabrics made in Siam.

made of seven precious substances for their sovereign, and the seats of his nobles and kinsmen are all golden stools.

Yearly there is a festival when they set out on exhibition apes of gold, peacocks of jade, six-trunked white elephants, three-horned silver-hoofed oxen, and in front of them are arranged ten lions of gold. On a stage of bronze they put twelve silver pagodas guarded (at the four corners?) by bronze elephants. All the people are fed on gold tea-trays and high dishes and out of cups of gold.

It is also called the "Land of the Hundred Pagodas" (百塔州), for they have built an hundred golden pagodas. One of them, a dog having damaged it (爲狗所觸), the top of the pagoda has not been completed. Then there is a lake called Ma ssu lu ch'ih (馬司錄池) where they have also built five pagodas with spires of gold. Next there is the relic of Sang-hsiang Fo (桑香佛舍) for which they have made an envelope of gold, and a stone bridge of over four hundred feet (in length). This country is commonly called "Chên-la the rich" (富貴真臘者).¹⁾

The climate is constantly hot. The soil is very fertile. The people boil sea-water to make salt, and ferment millet (小米) to make spirits.

Men and women do up their hair in a knot. When their girls have reached the age of nine they call in a Buddhist priest to perform the ceremony of pricking her with his finger and making a red mark on her forehead and on that of her mother. This cere-

1) Cf. this and the preceding paragraph with the description of Chou Tu-kuan in the *Chên-la féng t'u chí*, 2°-5°. Wang Ta-yün must have had this work before him when he wrote about Kamboja, for much of the information he gives seems to be derived from or inspired by that work.

The capital of Kamboja in the time of Chou Tu-kuan and of Wang Ta-yün was Eintapath (Angkor-thom), but in the beginning of the 15th century the capital was transferred to Shadomakh — the present Phnom-Penh. See A. Lacière, *Histoire du Cambodge*, 219-220. Fei Hsin confines himself to copying from Wang's book, consequently his notes have no value whatever at the time at which he wrote.

mony is called *li shih* (利市) for they say that by so doing when she comes to marry she will be a good housewife. When (the girls) have completed their tenth year they are married. If the wife has a liaison with a stranger the husband is much pleased thereat, and will brag to the other men, saying, "My wife is a clever woman, she can make men love her". (Such women?) wrap brocade around their bodies and on their foreheads they display pearls.

When the sovereign goes forth he uses a golden cart; he is most grand; over his body are spread (bejeweled?) fringes, in his right hand he holds a sword, in his left a deer's tail (鹿尾).

As to their laws, they have the punishments of cutting off the noses and of branding. Natives who commit theft or robbery have their hands and feet cut off, are branded on the breast and back, (or) tattooed on the forehead. Should a Chinese kill native he pays a sum of money to expiate it, and if he has no money they take him in person to atone for it.

The native products include beeswax, rhinoceros horns, peacocks, gharu-wood (沈速香), sapan-wood, lacrabau seeds and kingfishers' feathers superior to those of any other foreign parts.

The goods used in trading are silver, yellow and red beads, dragon pattern satins (龍綵), Kien-ning brocades (建寧綿), silks, cottons, and the like.

6 (2). *Hsing ch'a shōng lan*. 5. CHÊN-LA (真臘).¹⁾

From Chan-ch'êng with a favourable wind this country can be reached in three days. The commercial centre is to the south of

1) *Hsi yang chao lung Tien lu*, I, 6 (Chên-la), says: "Chên-la had three qualities of gharu wood, the first was (from) Lû-yang (綠洋), the second from San-lo (三潑), the third from P'o-lo-sh'a (勃羅叉)"; "There is a tree the flower of which are like those of the *lin-ch'iu* (林檎, a species of *Pyrus*), with elm leaves and plum-like

the gate of the capital. It (the capital) has a moat around it over 70 *li* in length, a stone river (石河) over two hundred feet in length and over thirty temple buildings of various kinds. Every year there is a festival when they set out jade apes (玉猿), peacocks, white elephants, and rhinoceros before them. It is called the "Land of an Hundred Pagodas" (百塔洲).

They eat their fill on plates of gold and out of bowls of gold. It is the ordinary thing to call it "Chên-la the rich".

The climate is always hot, the fields give abundant crops. They boil sea-water to make salt. The habits are opulent.

Men and women do up their hair in a knot; they wear short shirts with a piece of cotton wrapped around them. Their laws punish criminals by cutting off the nose, the feet, branding, and by banishment. Robbers are punished by having their hands and feet cut off.

Should a native kill a Chinese he pays for it with his life. Should a Chinese kill a native he is fined a sum of gold; if he has no gold he sells himself in expiation of his crime.

The products are beeswax, rhinoceros, elephants, peacocks, gharu-wood, sapan-wood, oil of lucrabau seed, and kingfishers' feathers.

The goods used (in trading here) are gold, silver, beads, brocaded satins, light silks, and cotton stuffs.

fruit, it is called *ko-pi-t'o* (歌畢陀). (The tree which has flowers like the quince's, with apricot leaves and mulberry(like) fruit, is called *p'i-yeh* (毗野). The tree which is like the *su-lo* (菴羅 *amra*, mango), with elm leaves, long branches, yellow flowers and black seed is called *su-fang* (蘇方, sapan); it can be used for dyeing. The fish with a snout like an elephant, which can suck up water and blow it out, which has four feet and no scales is called a *chia-tung* (建同), and the one which is like an eel with a mouth like a parrot's and eight legs is called *fou-hu* (浮胡)."

(Note to text: In the 8th year of Hung-wu (1374) its king Hu-erh-na (忽兒那) sent his minister Nai-i-chi-lang (奈亦吉郎) and others with presents; after this they did not after bring tribute to Court).

7 (1). *Tao i chih lin*. 20. Lo-wei (羅衛) Ligor(?).

It is south of Southern Chên-lo (眞駱) and was anciently called also Shih-kia-lo shan (實加羅山).¹⁾ The country (山) is poor, the best lands are not more than middling. The grain begins growing at the end of spring; the people raise more than they can use and export it to other countries.

The climate is not regular. The customs are frugal and diligent. Men and women tattoo their bodies. They wear a dark red (or violet) turban, and put around their waists *Liu pu* (溜布)²⁾ held in place by bamboo rings. They use crude beeswax to make lights, and weave cotton for a living. They boil sea-water to make salt and steep the root of the *ko* (葛) and ferment the water to make spirits which has a delicious sweet flavour. They drink it after a few days and it is not intoxicating.³⁾

They have a ruler. The native products are coarse laka-wood, tortoise-shell, beeswax, and cotton. Though they have valuable timber they are unable to cut it.

The goods used in trading are chessmen, scarfs (手巾), *k'ou-chi* taffetas (狗跡絹, *lit.*, "dog-track taffetas"), coloured beads, trade silver, blue and white porcelain bowls, bits of iron, etc.

1) There can be no doubt that 眞駱 is a very unusual form for 眞臘, whether it is a copyist's error or intentional I cannot say. I have never met with this form elsewhere. Lo-wei may be the Lo-yüeh (羅越) of the T'ang period, and the T'ung-liu-mei (登流眉) of Chao Ju-kua, which is generally supposed to have been Ligor in the southern extremity of the Malay Peninsula. Shih-kia-lo, given as the old name of Lo-wei is unknown to me, it seems to correspond with some such form as Çakala or Çakara, unless it points to an original Singa or Singapura.

2) *Liu pu* is a cotton fabric made in the Liu (Maldivé) islands. In another chapter Wang Ta-yün speaks of the large cotton sheets or handkerchiefs (大手巾布) made in the Maldives. *Tao i chih lin*, 43 (Pei Liu), *infra*, 59 (1), cf. *Ying yüi ching lun*, 1-2 (Liu shan, T'ieh-kan), *infra*, 59 (2).

3) Conf. *Tao i chih lin*, 42 (Lang-ya-po-ti), *infra*, 30 (1).

8 (1). *Tao i chih ho*. 21. Lo-hu (羅斛). Lopburi (Lower Menam).

Its steep cliffs of white rocks make it look like a walled town with suburbs (城郭). The land is level and extensive and produces abundant crops on which the people of Hsien (Siam) count. The climate is constantly as warm as in spring; in their habits they are violent.

Men and women do up their hair in a knot and wear a white cotton turban and a long cotton shirt. In determining any matter, whether it be the pattern of a thing, money, grain, or going in or out, they discuss it with their wives before deciding, and frequently it is arranged better than by the men.

They boil sea-water to make salt, and ferment glutinous rice to make spirits. They have a ruler. It is the rule to conduct their trade with cowries instead of coins; ten thousand of them are equal in value to twenty-four taels in *chung-tung* paper money. It is extremely convenient for the people.

The country has as native products Lo-hu aromatic (woods) with a very pure and strong perfume like that of gharu-wood. Then there is sapan-wood, rhinoceros horns, elephants' tusks, kingfishers, feathers, and beeswax.

The goods used in trading are blue (china) ware, cotton prints, gold, tin, Hainan betel-nuts, and cowrie shells.

Next to it (or subordinate to it) are Mi-lé-fo (彌勒佛), Hu-nan-kuei (忽南圭), Shan-ssü-fan (善司坂), Su-la-ssü-p'ing (蘇刺司坪), and Chi-tun-li (吉頓力).¹⁾ As they have no useful products they are only mentioned in this note.

1) I am not aware that any of these localities have been identified. Conf. however, *Chu fan chih* (Chên-lä), where, in the list of dependencies of Chên-lä, we find Hsi-p'ing (西棚) and Tun-li-fu (吞里富), which have some resemblance to the Su-la-ssü-p'ing and the Chi-tun-li of the text.

The goods used in trading are coarse silver ingots, blue cottons, porcelain-ware, Ch'u(-chou) porcelain, (處[州]磁),¹⁾ earthenware pots, big jars, iron caldrons, etc.

10 (1). *Tao i chih tiao*. 50. K'UN-LUN (崑崙). Palo Condor.

It is the ancient K'un-lun shan, also called Chün-tun shan (軍屯山). The island is high and broad with a winding coast of over an hundred *li* in length; it rises up in the midst of the ocean opposite Chau-ch'êng, (Tung-)hsi-chu (Anamba Islands) and Ting-chih (鼎峙). At its base is the K'un-lun Sea, whence its name.

Junks trading in the Western Ocean must get by it rapidly (必掠之) a favourable wind it can be passed in seven days (from Chau-ch'êng).²⁾ There is a saying that "above there are the Ch'i-chou (Paracels islands), below there is K'un-lun"; so they look to their steering or they will lose their ships.

The land produces no rare product; the inhabitants have no houses but live in the higher part of the hills. There are some tens of males of strange shape and outlandish appearance, who live in caves and wild places and who have no clothing; in the daytime they eat mountain fruits, fish, and prawns; at night they rest in the forks of trees like the Piao-ch'i (標枝) of the days of the wild deer (野鹿之世).³⁾ How do we know this? Well, when

1) Shêng Ts'ing-chih in the *Tao i chih tiao kuan ch'eng*, I, 1st says that Chu-chou porcelain is Lung-ch'uan (龍泉) ware. Hirth, *Ancient Chinese Porcelain*, 36, says: "The Lung-ch'uan factories were moved to Ch'u-chou (sic) at the beginning of the Ming dynasty [A.D. 1368]". It appears from our text that they were moved at an earlier date.

2) The text reads 船販西洋者必掠之順風七晝夜可渡. I have ventured to correct it on the strength of the reading of *Yei Hsin* in the parallel passage in the *Hsing ch'ia ch'eng lun*, which has 凡往西洋販船必待順風...

3) I fail to catch the allusion; it is probably a classical one. The text reads 夜則

junks, forced by contrary winds, anchor at this island, a crowd of men and women congregate together and amuse themselves, clapping their hands and joking, and then make off. They follow purely natural instinct (自適天趣), so I say, are they people of the Ko-t'ien family? ¹⁾

10 (2). *Hsing ch'a shêng lan*. 3. K'UN-LUN SHAN (崑崙山).

This island rises in the middle of the boundless ocean facing Chan-ch'eng, Tung-hsi-chu, Anamba Islands, and Ting-chih (鼎峙). It is high and square; its area is extensive (山盤廣遠).

Sailors speak of the "Sea of K'un-lun". All junks going to the Western Ocean must wait for favourable wind when they will pass it in seven days. There is a common saying that "above one fears the Ch'i-chou (七洲, the Paracels), below one fears K'unlun." If the needle varies (or) the helm is set wrong, the ship and crew cannot get clear of the island.

There are no noteworthy products. The inhabitants have no dwellings or place where to cook their food; they eat fruits, fish, and shrimps, and dwell in caves or nest in the trees.

宿於樹巢仿標枝野鹿之世. It may be in part an allusion to the time when the Emperor Shun lived with the wild deer, so tells me a Chinese friend.

1) The text of this passage reads 吾故曰其無懷大庭氏之民歟其葛天氏之民歟. Wu-huai, Ko-t'ien and Ts'ing were, I am told by a Chinese scholar, types of simple, unsophisticated, guileless folk; he may be right, but this paragraph remains very obscure to me. The *Tao i chih ho kung ching*, 2, 1st offers an explanation on the latter part of this chapter of the text.

9 (1). *Tao i chih ho*. 14. MA-LI-LU (麻里嚕).?

A little far-off bay leads to this place. It is a high hill and the water has many *lo-ku* rocks (鹵股石) in it.¹⁾ Woods are few, the land is high and barren. The people raise principally yams (薯芋). The climate is hot. The customs correct.

If a native chief dies his widow does not marry again any common person. The sons or grandsons of native chiefs of other districts (國) according to rank and signority must agree among themselves who shall consent to marry her. If they do not, then she shaves off her hair and consults the holy books about putting an end to her life (看經以終其身).

Men and women do up their hair in a knot; they wear a short shirt of blue cotton and wrap around them a red cotton sarong.

The people boil sea-water to make salt, and ferment the juice of the sugar-cane to make spirits. They trees bamboo slips to make bedsteads, and burn wild wax (生蠟) as a lamp.

The native products comprise tortoise-shell, beeswax, laka-wood, *chu-pu* (竹布),²⁾ and cotton.

1) I have not met with the name Ma-li-lu in any other Chinese work of this time or of the Sung period. It may have been a dependency of Chan-sh'ang, though I am disposed to look for it in the Malay Peninsula. The *lo-ku* rocks seem to have been coral or madreporic rocks, though I have been unable to find this term or any explanation of it in any Chinese work at my disposal. The earliest use I know of it is in Chao Ju-kua's *Chao fan chih*, 1, 38* (San hai), when it is said of the sea along the east coast of Luzon 海多鹵股之石槎牙如枯木芒刃銛於劍戟舟過其側預曲折以避之. Wang Tay-han makes frequent use of the term, e.g., 85 (Kao-lung-pu), 89 (Hsiao Ku-nan), etc. In Pei Hsin's work (228, Ta Kolan, *infra*, 63 (1)), it is written *lu-ku* (羅股). *Hsi yang chao lung tien lu*, 3, 12* (A-tan) says "the houses of the people are made of a stave called *lu-ku* (羅股). It would seem that the author takes this for a foreign word. I have been assured by Chinese scholars that *lo-ku* stone is a wellknown Chinese term; but they cannot explain it.

2) *Chu pu*, if it is not a transcription of a native term, means "bamboo cloth". Wang Tay-han refers to it frequently as a product of localities far distant the one from the other. See *infra*, 38 (1). Note.

Malay Peninsula and adjacent localities.

11 (1). *Ying yai shêng lan*. 5. MAN-LA-KIA (滿刺加). Malacca.

Its old name was Wu-hsü (五嶼, "Five Islets") on account of there being that number of islands in the sea thereabout. To the east and south it confines on the sea, to the west and north is the coast which adjoins the mountains (岸連山). The soil is barren and saline, the crops are very poor, so (agriculture) is not in favour.

The country was under the rule of Hsien-lo (Siam), yearly it paid five thousand (fifty?) ounces of gold, should it have failed to do so it would have suffered an attack.

In the seventh year *ssü-ch'ou* of Yung-lo (A.D. 1409) the eunuch Chêng-Ho notified the imperial command that Man-la-kia was raised to the rank of a (feudatory) kingdom and presented, in the name of the Emperor, to its head chief (將領) a silver seal, a cap, and official robes and declared him king; on this it ceased to be a dependency of Hsien-lo (Siam). The king, taking with him his wife and son, proceeded to the capital (of China) to express his thanks for being allowed to offer tribute. The Emperor granted him a ship to return to his country.¹⁾

1) Cf. Groeneveldt, *op. sup. cit.*, 123—125. Cf. *Hsing ch'ü shêng lan*, 13 (Man-la-kia), *infra*, 11 (2), which places the voyage to China of the king of Malacca in 1415. The *Huang Ming ta chêng chí* (皇明大政記), 9, 1^o, 6^o, says the king of Malacca with his wife and son (率妻子) arrived at court in the 7th moon of the 2th year of Yung-lo (1411) and left in the 9th moon. He was given an imperially ordered feast, but no mention is made of a junk having been furnished him for his return voyage. *Tung tsi yang k'ao*, 4, 1^o—3^o, says that in 1405 the ruler of Malacca, Si-li-pa-erh-su-la (西利八兒速刺) sent a petition to the Ming court asking to become a feudatory. It was in response to this request that Chêng Ho was sent in 1409. The king his successor, who went to China in 1411, was called, the same work says, Pai-li-tieh-su-la (拜里送蘇刺), he took 540 persons in his suite. Groeneveldt, *Notes on the Malay*

There is a large stream (溪) which passes by the king's palace and enters the sea. On the bridge which spans it is a row of sheds with over twenty columns (supporting them); here come those who have trading to do.

In their usages they revere the doctrine of the Moslims, observing its fasts and penances.

The king wears a white turban, a fine blue (or green, 青) flowered robe; he wears leather shoes and rides in a sedan chair.

Among the people the men have a kerchief around their heads, the women do their hair in a knot behind. Their bodies are rather dark, they wear a short shirt and wrap around the loins a piece of stuff.

Their customs and usages are pure and simple. The cottages of the people are like those of Hsien-lo; they live all huddled together. They make a living by fishing. The boats in which they go to sea and fish are dug out of logs of wood.

In their marriages and funerals they do as in Chao-wa (Java).

Along the sea-side there are dangerous "turtle-dragons" (龜龍, crocodiles). This dragon is four feet high and has four feet, its body is all covered with scales and it shows long teeth. If met with it crushes one with its teeth.

From out the mountains there comes a black tiger slightly smaller than the ordinary tiger; its fur has dark mottling. Some

Archipelago, 123—125, has translated this chapter from the revised edition of the *Fing yai shih tsu*. It differs considerably from the present version. In 1403 a Chinese envoy, the eunuch Yin Ching, visited Malacca. *Ming shih*, 326, 4^o.

Pai-li-tieh-su-la is the Parimicara of the Portuguese account. He was a Hindu and originally king of Palimbar (Palembang). He later became king of Singapore and having been driven out of it by the Lord of Patani, he fled and founded Malacca. His son Xaquendaza (Iskandar Shah) it was who went to China and became a vassal of the Emperor. He was three years on the journey, and married the daughter of the Chinese official who was sent to accompany him back to Malacca. See *Commentaries of Afonso Dalboquerque*, III, 73—79 (Hakluyt Soc. edit.).

tigers are able to assume human shape and in broad day enter the market place. Those who detect one lay hold of it and kill it. Anciently the city (was infested by?) *shih-t'ou Man* (屍頭蠻, "corpse-headed Barbarians").¹⁾

(For the use of the) Chinese junks which come to the country there is a shed with wooden palings around it, gates in its four sides and a drum tower on which watch is kept at night with a handbell. Inside they have set up (smaller?) strong sheds (in which) are godowns for storing goods. In the fifth moon the junks are sent off.

The native products are *huang-lien hsiang* (*coptis teeta* rhizomes) ebony, and *ta-ma hsiang* (打魔香, damar) which is the sap of a tree which flows to the ground and solidifies; if lit it burns of itself. The people of the country use it as a lamp. It is also used to smear boats so that the water may not enter them. A bright and lustrous variety like gold-leaf and called *sun-tu-lu-sei* (損都盧厮) can be made into balls, it is called *shui-p'o* (水珀 lit., "water-amber").²⁾

There is a district in the mountains called Shu-sha (樹沙) where tin (花錫) is found. When first found this tin is like

1) Mr. Otto Blagden writes me: "The superstition that men are able to turn themselves by magic into tigers, if they know how it's done, is firmly held by Peninsular Malays. This is the earliest mention of it that I can remember to have seen. The tigers are not, however, necessarily black in such cases, but striped, I believe." *Hsi yang chao kuang tien lu*, 1, 16' (Mau-la-lia) calls this small spotted black tiger *shing lu* (星虎 "star tiger"). On the *Shih-t'ou Man*, see *supra*, 4. The *Hsi yang chao kuang tien lu*, loc. cit., 16' refers to the *Shih-t'ou Man* goblins (妖) of Malacca as being like those of Chan-eh'ang.

2) Mr. Blagden has furnished me the following note. "*Sun-tu-lu-sei* is unquestionably what the Malays call *damar mata kucing* (literally "cat's-eye resin"), a very superior, amber-like quality of resin, said in Wilkinson's Dictionary to come from the *Hopex globosa* and *Pongonocarpus Wallichii*". I have seen it myself. Groenewaldt does not explain the Chinese attempt at a name, no more ran I, and George Maxwell in *JBRAS* (1905), N° 52, p. 109 was equally unsuccessful.

ko (beans, 始其皮如葛), but when pounded and passed through a sieve it forms a powder which can be made into cakes.¹⁾

On the banks (of streams) grows a water-grass called *Kiao-chang* (菱草, Malay, *kajang*); the blades are like a sword and are strong and tough. From its seed, which are like lichees and of the size of a hen's egg, a spirit is made by fermentation, called *kajang wine* (*nipa wine*) which is intoxicating. Its leaves can be woven into mats.

Of fruits they have sugar-cane, bananas, jack-fruit, wild lichees, etc. Of vegetables onions, ginger, garlic, mustard, gourds, water-melons, etc.

There are cattle, sheep (goats?), fowls, and ducks, but neither donkeys nor horses.

11 (2). *Hsing ch'a sheng lan*. 13. MAN-LA-KIA (滿刺加).

This locality was formerly not designated a kingdom. It can be reached from Ch'iu-chiang (Palembang) with a favourable wind in eight days. The sea-coast is nothing but rocks (山孤); the people are few and sickly. It paid yearly to Hsieu-lo (Siam) 40 ounces of gold as a tax (稅).

The soil is poor, the crops small. There is a mountain in the interior from which flows a torrent in which they sift the sand and get tin (錫) which is melted into blocks, and this is *tau-hsi* (斗錫). Each block weighs one catty, four ounces, standard weight. They

1) This is probably Selangore. Duarte Barbosa (Hakluyt Soc. edit), 180, speaks of Sara Langor "in which there is much tin, which they carry to the city of Malacca as merchandise, and hence they carry it to all parts". According to the *Tao i ch'ia hsi*, tin was found in Ki-lan-tan (Kalantan), Lang-ya-mén (Lingga) and P'eng-k'ang (Pahang). Three terms are used by our Chinese authors to designate tin, 錫, 斗錫 and 花錫, they seem to be interchangeable, though the second may have been reserved for tin in ingots, and the third may have meant tin in certain form used in trade; confer the term 花銀 "trade silver". *Hsi yang ch'au kang tin lu*, 1, 5 (Mun-lu-kuo), says "they cast *hsu hsi* into shapes like a bushel measure (*tau*), each weighing one catty, eight ounces,

also weave banana-fibre into mats. Exclusive of tin they have no other product for trade.

The climate is hot during the day and cold at night. Men and women do up their hair in a knot. Their skin is like black lacquer, but there are white ones among them who are of Chinese descent.

They esteem sincerity and honesty. The people make their living by sifting tin and catching fish. Their houses are like elevated buildings; they do not spread out planks, but only make the story the length of a piece of wood. They spread their bedding side by side when they want to go to bed, and sit squatting on their haunches to take their meals. The kitchen and everything else is on top (of this platform).

The goods used (in trading with them) are blue and white porcelain, coloured beads, coloured taffetas, gold, and river.

In the 7th year of Yung-lo (1409) Chéng Ho and others conferred (on the ruler of Malacca) by Imperial order a silver seal and an official hat, belt, and gown. They also set up a tablet (stating that) Mau-la-kia was raised to the rank of a kingdom. Hsien-lo (Siam) at first would not recognize it.

In the 13th year (1415)¹⁾ the ruler, to show his gratitude for the Imperial bounty, crossed the sea accompanied by his wife and son, and came to court with presents. The Emperor rewarded him and he returned to his country.

12 (1). *Tao i chih li*. 18. TING-KIA-LU (丁家盧). Trengganu.

It is a triangular islet, a bay separates it from the adjacent district and forms an important water-way.²⁾

1) See *supra*, 11 (1), Note 1.

2) *Chu fan chih*, (San-to-ch'i) writes the name T'ing-ya-sung (登牙僮), and says that it was (in the 13th century) a dependency of San-to-ch'i (Palembang). On Geo. Phillip's Chinese map the name is written Ting-kia-hsia-lu (丁加下路).

The island is high and desolate. The fields middling to poor, but the poorest people have a sufficiency of food.

In the spring there is much rain. The climate is rather hot. In their usages and customs they are believers in the supernatural. Men and women do up their hair in a knot and wear a short shirt of green *chih-pu* cotton (綠頭[縐?]布) tied around with *chó-li* taffetas (遮里絹).¹⁾

They carve wood into (images of) gods, and sacrifice to them with the blood of men whom they put to death (or this purpose) mixed with wine. Whenever there is a drought or plague (疫癘) they pray to them when at once their prayers are answered. Furthermore, when either a man or his wife are very ill they have their fortunes told and they come true. The present ruler, (who is a real) manager of affairs, forbids greed and encourages diligence and frugality.

The native products are laka-wood, camphor, beeswax, and tortoise-shell. The goods used in trading are blue and white porcelain, Chan-ch'ang cottons, little red taffetas, tin, spirits, etc.

1) The term *chih-pu* does not occur elsewhere in Wang's book; I have no explanation to offer of it. *Chó-li* taffetas or gauze is probably the same stuff which the *Ying gai shêng lun* 13 (Kodi, *infra*, 66 (2) calls *ch'ô-li* (搭黎), also called *Hai yang pu* (西洋布) and which came from K'an-pu-i (Cambay). On the other hand the *Tao i chih tiao*, (San-lo-ch'i), says that *Hai yang sù pu* (西洋絲布) was also called *sù-pu* (絲布) a term repeatedly met with in this work. Shen Ta'eng-chih in the *Tao i chih tiao kuang chêng*, 6', says that *sù pu* was made of ramie fiber mixed with silk (苧皮兼絲絹). The term *ch'ô-li* is Hindu *chāṭī*, *chāṭī*, our "shawl". Conf. *Ying gai shêng lun* 13, *infra*. The *Ku-ên yao lun*, I, 23, says "Hai yang pu was snow white and seven to eight feet broad".

13 (1). *Tao i chih liu*. 16. P'êng-k'êng (彭坑).¹⁾ Pahang.

Rocky cliffs encircle it, rough and precipitous. From afar it looks like a level wall (平塞). The soil is fertile, rather good for cereals. The climate is half hot. The customs differ but little from those of Ting-kia-lu (丁家廬 Trengganu).

Men and women do up their hair in a knot, and wear a long cotton shirt tied around with a piece of cotton. The wealthy women wear on the crown of their heads a number of gold rings, while ordinary people make rings of coloured beads to keep their hair in order.

Discussions concerning marriage are settled with five *tao* (造)²⁾ which is the equivalent of five candareens weight of pure silver.

The people boil sea-water to make salt, and ferment the juice of the cocoa-nut to make spirits. They have a ruler.

The native products are *huang-shou hsiang t'ou* (gharu-wood), *ch'ên* and *su* (gharu-wood), *ta-pai* perfume (打白香),³⁾ camphor, tin, and coarse laka-wood.

The goods used in trading are various coloured taffetas, Shê-p'o (Java) cottons, copper and ironware, lacquer-ware, and musical instruments.

13 (2). *Hsing ch'ü shêng lan*. 15. P'êng-k'êng (彭坑).

This locality is to the west of Hsien-lo (Siam). Steep rocky cliffs encircle it, rough and irregular they stretch afar. The island

1) Cf. Groeneveldt, *op. sup. cit.*, 136. *Chün-fan-chih*, 1, 8° (Fu-lo-an) writes the name P'êng-fêng (蓬豐) and says it was a dependency of San-to-ch'i. G. P. Rouffaer, *Nergeschied van Nederlandsch-Indië*, IV. 390 says, P'êng-k'êng is Panggang or old Pahang.

2) I have no explanation at other for this term, it probably reproduces some native word for a local currency.

3) *ta-pai hsiang* does not occur elsewhere in this work. I have found no explanation of the term.

(山) is as level as a wall (寨). The soil is fertile, grain sufficiently abundant. The climate is warm. They are fond of magic (尚怪). They cut pieces of aromatic wood to occasion people's death, and with human blood they make sacrifices and pray for good luck and to avert calamity.¹⁾

Both men and women do their hair in a knot and wrap around them a skirt (or kilt, 裙). The women in wealthy families wear four or five gold rings on the tops of their heads, but common people wear rings of coloured beads.

They boil sea-water to make salt, and ferment treacle (漿) to make spirits.

The products are two varieties of gharu-wood (*huang-shu hsiang* and *shen-hsiang*), flake camphor, tin (花錫), and laka-wood.

The goods used (in trading) are gold, silver, coloured light silks, Chao-wa (Java) cottons, ironware, musical instruments (鼓板).

14 (1). *Tao i chih ho*, 17. KI-LAN-TAN (吉蘭丹). Kalantan.

The country is extensive, the land is poor and arable soil is scarce, but the summer being hot they get in two crops. The climate is uniformly hot. They are ceremonious in their customs.

1) This passage is taken from *Tao i chih ho*, 18 (Ting-kin-lu) *supra*, 21 (1). *Hsi yang chao kang tien lu*, 1, 21' (P'ang-hung), says: "This country is in the great broad Ocean; rocky cliffs surround it like the walls of a city (如城). Its prince is fond of the supernatural (好怪); (he) carves scented wood into images of gods, to make human sacrifices and to pray to... (Among its natural products) is a tree which resembles a pine (杉). Its seed are like cardamoms, its bark is roughly scaly, its sap is called *p'ien nao* (片腦 "flake camphor") or *lung nao* (龍腦 "dragon's brains" camphor). If eaten it cures piles"... (Note to text: In the year 1379 P'ang-hung sent to the court of China a mission with a petition on gold leaf and a present of slaves and various articles. In the year 1414 it sent the high official So-ma-ku-mén-ti-li (蘇麻固門的里) and others with the tribute).

Conf. *Chu fan chih*, (San-fu-ch'i), where Ki-lan-tan is mentioned among the dependencies of San-fu-ch'i. See also Groeneveldt, *Op. sup. cit.*, 132.

Men and women tie up their hair and wear a short shirt with a black cotton sarong. Whenever there is a festival during the year or a birthday or a wedding they put on long red cotton shifts in compliment thereto.

They boil sea-water to make salt, and occupy themselves weaving cotton. They have a ruler.

The native products are a superior quality of *ch'en* and *su* (gharu-wood), coarse laka-wood, beeswax, turtle-shells, cranes' crests, and betel-nuts.

Outside (this place) there is a small bay, secluded and very deep (索遷極深), with salt water and splendid fish. Here tin is found.

The goods used in trading are *T'ang-tou pu* (唐頭布, *lit.*, "Chinese-head cotton"), Chan-ch'êng (Annam) cottons, blue plates, decorated cups, red and green beads, lutes (? 琴阮) and other musical instruments, etc.

15 (1). *Tao i chih ho*. 15. Hsia-lai-wu¹⁾ (遐來物).?

The sinuities of the island extend for some hundreds of *li* below Ku-lei (古涖). Its soil is from middling to poor. The people revere the goblins (妖怪).

The climate in spring, summer, and autumn is hot, in winter it is slightly cool; people do not suffer from sickness, but if it is not thus, then malaria breaks out and animals die.

1) I have not met with the name Hsia-lai-wu (in Cantonese Ha-lai-mât) elsewhere. It may recall the Kia-lo-hai (加羅希, in Cantonese Ka-lo-kei) which *Chün-fan-chih*, (San-fu-ch'i) mentions as a dependency (on the Malay Peninsula probably) of San-fu-ch'i. It remains at all events unidentified. Neither have I seen elsewhere the name Ku-lei (in Cantonese Ku-lai), it may be an irregular form for Kedah on the Malay Peninsula, which is an other place called Ko-la (葛刺). See *infra* *Ting yai shing lan*. 14.

Men and women draw back their hair, have a red turban and wrap around them a blue cotton sarong.

When anyone dies they crush raw camphor, mix it with water, and pour it over the corpse to preserve it, so that it shall not decompose on being buried.

The people boil sea-water to make salt, and make spirits by fermenting the juice of the cocoa-nut. They have a ruler.

The native products include sapan-wood, tortoise-shell, cotton, and betel-nuts.

The goods used in trading are Chan-ch'eng and Hai-nan cottons, iron wire, copper caldrons, red taffetas, coloured cottons, wooden combs, blue chinaware, coarse bowls, and such like things.

16 (1). *Tao i chih liö*. 12. TAN-MA-LING (丹馬令). Tembeling(?)

It is the adjacent country to Sha-li-fo-lai-an (沙里佛來安).¹⁾ It is level and extensive. They have more grain than they can consume; as to the newly gathered grain they put it by to wait till it gets old.

In their usages they are frugal. The climate is pleasantly warm. Men and women do up they hair in a knot. Their clothing is a white shirt with a black cotton sarong.

In settling marriages they use satins and brocades (as bargain money) or a certain quantity of tin.

The people boil sea-water to make salt, and ferment millet (小米) to make spirits. They have a ruler.

1) *Chü fan chih*, 1, 7^o-8^o writes the name 單馬令. Sha-li-fo-lai-an is the Fo-lo-an (佛羅安) of *Chü fan chih*, 1, 8^o. It has been identified tentatively with Beranang. Mr. Blagden writes to me: "Tan-ma-ling and Fo-lai-an are great posers. The Tembeling district and rivers in Northern Pahang have been suggested, but I rather doubt the explanation. As for the second name, I am not satisfied with any explanations of it that I have seen, not even with my own suggestion Patthalung (Badlan").

The native products are superior tin, pearl camphor, turtles' shells, cranes' crests, laka-wood, as also beeswax and *huang-shou hsiang-c'on* (gharu).

The goods used in trading are Kau-mai (甘理) cotton cloth,¹⁾ red cotton cloth, blue and white porcelain cups, drums. etc.

17 (1). *Hsing ch'a sheng lan*. 16. TUNG-HSI-CHU (東西竺).

Pulo Aor.

These islands in the sea face Lung-ya-mên; in outline they are divided into high massifs facing each other, like Pêng-la (蓬萊) and ten thousand feet apart.²⁾

The soil is barren, unfit for culture. They depend yearly for rice on that brought from other countries and from Tan-yang (諸邦淡洋).³⁾ The climate is varying. They boil sea-water to make salt and ferment cocoa-nuts to make spirits.

1) "Kau-mai cotton cloth" occurs frequently in Wang's book. The only explanation I can offer for it is that Kau-mai is an abbreviated form of Kau-mai-li (甘理里) which *Tao-i-chih-lia*, 96, (*infra*, 83 (1) gives to a country which I identify without much hesitation with the Comoro islands. It seems strange that cottons should be brought from there for sale in the Malay Peninsula and other localities mentioned by Wang even more remote, but there is no impossibility in it.

2) Cf. Groeneveldt, *Op. sup. cit.*, 140. *Tao i chih lia Kuang ching*, 2, 2, accepts the identification with Pulo Aor, placing it S. of Pshang and of Ti-pen-shan (地盤山). Nicobar island. The reference to Pêng-lai seems to be to the fairy island of that name.

3) This Tan yang (*lit.*, "flat" or "insipid" Sea) cannot be the Tan-yang on the northern coast of Sumatra which Wang and the authors of the Ming period call Tan-yang (淡洋) Tan-chiang (淡港) and which must be Tamiang river, see *infra*. It is just possible that the Tan-yang in the first case may designate the Temiang group of islands N. of Ilangga. E. H. Parker, *The island of Sumatra*, 144, is inclined to think there is some connexion between the Tan-yang of the Chinese (which he translates "Insipid Sea", i. e., flat, or not boisterous) with Ibn Batuta's "Still Sea". He says "This remark is particularly interesting for the journey of Ibn Batuta from Shumatra to China lay, after leaving "Mal Java" (which was connected by land with Shumatra) through the "Still Sea". I think that if there is any connexion between the two names it is of the remotest kind. Another and

Men and women cut their hair and wear a sarong.

The products are betel-nuts, cotton, banana-fibre mats.

The goods used (in trading) are tin, pepper, ironware, and the like.

18 (1). *Hsing sh'a shêng lan*. 19. CH'U-CHOU (九州).

Pulo Sembilang.

These islands are near Mau-la-kia (Malacca).¹⁾ Their products are gharu-wood, both *ch'en hsiang* and *huang-shou hsiang*. The trees grow close together, the branches covered with a dark green foliage.

In the 7th year of Yung-lo (A.D. 1409) Chêng Ho sent soldiers on the islands to gather aromatic woods; they got six trunks of over eight to nine feet in diameter and sixty to seventy feet long. The aroma was penetrating, the wood had fine black markings.

The natives opened their eyes and stuck out their tongues, saying: "The soldiers of the Heavenly dynasty are as mighty as the gods!"

19 (1). *Tao i chih lio*. 39. LUNG-YA-HSI-KIO²⁾ (龍牙犀角).

Lankawi Islands (?).

It is a range of hills, level on the inside but rising aloft from

better explanation of the term Tan-yang as used here (it that is refers to the Palembang river which the *Ting yü shêng lan*, 3 (Ch'iu-chiang) calls Tan-chiang (淡港). See *infra*, 25 (1), 25 (2).

1) Cf. Groeneveldt, *Op. sup. cit.*, 139. These islands are usually identified with the Pulo Sembilang. On these varieties of eagle-wood, see Hirth and Rockhill, *Op. sup. cit.*, 207.

2) There can be no doubt that the Lung-ya-hsi-kio of the *Tao i chih lio* is the Lung-ya-ka-mao of the *Hsing sh'a shêng lan*, and that they are the same as the Lung-ya-kiao-i (龍牙交椅) of the XVth century Chinese map of Geo. Phillips, *J.C.B. R.A.S.*, n. s. XXI, 38, which he identifies without question with the Lankawi Islands. The conclusion is forced upon us that the form in which this name has reached us through the two Chinese works above cited is corrupt, and that in the case of the *Tao i chih lio* we should read Lung-ya-kio-hsi (in Cantonese Lung-nga-kok-si) and in the case of the *Hsing sh'a shêng lan* correct the fourth character to miao (貌) to i (猊) which would give us Lung-ya-ka-i which is a closer transcription of the native name — Lankāvari — than that of the other writers.

the outside. The inhabitants live settled all around like ants. The soil is of inferior quality. The climate is half hot. The customs are honest.

Men and women do up their hair in a knot; their teeth are white, they wrap around them a piece of Mai-i (麻逸布) cotton stuff.¹⁾

It is their custom to attach great importance to family relations, if they do not see every single day their elder relatives, they will take wine and presents and go to inquire whether they are well; if they have been drinking the night long they do not see them in their drunkenness.

The people boil sea-water to make salt, and ferment glutinous rice to make spirits. They have a ruler.

The native products are gharu-wood, superior to that of any other foreign part: next there are cranes' crests, laka-wood, honey, and *huang-shou-hsiang* 'rou.

The goods used in trading are native prints, Pa-tu-la cotton stuffs (八都刺),²⁾ blue and white porcelain cups, etc.

1) There is no doubt about Mai-i having been, prior to the Ming period, the northern islands of the Philippines. Conf. *Cên fan chih*, (Ma-i), and *Tao i chih hio*, *infra*, 30 (1). They mention cotton and cotton stuffs among the products of these islands. If they found a market in the Lankawi island it seems less strange that stuffs from the Comoro islands (Kau-mai-li) should also reach the Malay Peninsula. It is to be noted that the *Hsing sh'ü shêng lun* which practically reproduces the text of the *Tao i chih hio* has changed Ma-i into Ma-i-tang (Billiton island), the former place being presumably unknown to him. So likewise in his chapter on Ma-i-tang, he has incorporated information taken from the *Tao i chih hio* where it is given for Ma-i.

2) *Pa-tu-la* cottons are frequently mentioned by this author, the term remains unexplained. It seems unlikely that it can be an error for Pa-tu-ma (八都馬) which Wang gives (27, *infra*, 40 (1)) as the name of an island on which they wore Kau-mai(-li?) cotton sarong. In the *Hsing sh'ü shêng lun* (*infra*, 19 (2)) it will be noted that this name has lost all meaning for the author gives it as *pa-chia-tu*.

19 (2). *Hoing ch'a chhng lan*. 18. LUNG-YA-KA-MAO (龍牙加貌).

This locality is distant from Ma-i-tung (麻逸凍 Billiton Island) with a fair wind three days journey.¹⁾ The interior is level, the outside is hilly. The people swarm like ants. The climate is constantly hot. The crops in the fields are always ripening. In their customs they esteem honesty.

Men and women do up their hair in a chignon, wrap around them a piece of Ma-i-tung (Billiton) cotton stuff and wear a short shirt.

They attach great importance to showing profound respect to their relatives. If they do not see them for a day, then they take liquor and food and go and ask concerning their health.

They boil sea-water to make salt, and ferment glutinous rice (秬) to make spirits.

The country produces gharu-wood, laka-wood, beeswax, cranes' crests, and crystallized sugar.

The goods used (by the Chinese in trading) are coloured chintzes, *pa-sha-tu* (八察都) cotton cloths, blue and white porcelain ware.

20 (1). *Tao i chih liu*. 42. LUNG-YA-PO-TI²⁾ (龍牙菩提)?

All around are nothing but hills; rows of rocks form entrances.

1) Geo. Phillips, *JNCBRAS*, XXI, 39, identifies the Lung-ya-kia-erh shan (龍牙加兒山) and the Lung-ya-kia chiang (港) of his old Chinese map with the Indrapura mountain and river in Sumatra. This may be the same locality here mentioned and my suggestion that the last character of Lung-ya-ka-mao be changed to i (貌) incorrect, our guess is as good as the other. *Tao i chih liu tung shing*, I, 16', says Lung-ya-ka-mao is the Lung-ya hsin (or hsiu, 狼牙偕 or 須) of earlier writers.

2) This name does not occur in this work or in any other of the Ming period. I have put this chapter tentatively among those relating to localities in the Malay Peninsula on account of the name appearing to correspond to an original Lanikuri which was, I believe the ancient name of the Lankwi islands. The custom referred to of fermenting the root of the *ko* is mentioned by the author of the *Tao i chih liu* (20) as obtaining in Lo-wel (Ligor?), see *supra*, 7 (1). Britschneider, *Bot. Siamensis*, III, 308, says *ko* is the *Pachyrhizus Tanchergianus*, S. and Z.

There is no cultivation except the planting of yams which they cook with steam in place of (other) food. They store them away, the well-to-do families heap up many rooms full of them, as the Chinese store up grain for food during the year, and what is left over they keep for the following year without its spoiling. They raise fruit in gardens, and gather oysters and shrimps to eat with their yams.

The climate is extremely hot. The customs are simple. Men and women do up their hair in a knot and wear a single garment of silk and cotton with patterns.

They boil sea-water to make salt, and soak the root of the *ko* (葛, *pueraria Thunbergiann*) and ferment the juice to make spirits.

The native products include coarse varieties of aromatics, betelnuts and cocoa-nuts.

The goods used in trading are red and green beads, ivory boxes, shoes of sycee (錠), iron pots, blue and white cotton prints, etc.

21 (1). *Tao i chih ho*. 19. JUNG¹) (戎).

It is enclosed by the sinuosities of a stream. (The people are) a tribe of peaceful savages. The highly cultivated fields form a connected strip (田舍連成片); the soil is rich. The climate is irregular, in spring and summer there are heavy rains.

The usages are lowly. Men and women have square heads (方頭). After a child is born they compress all four sides of its head with wooden boards which they remove after two years. They cut their hair every three months (四季祝髮). They wrap a cotton sarong around their bodies.

1) The term JUNG is usually used to designate wild tribes of the West, why it should be used to designate a tribe of the Malay Peninsula or of Indo-China, I cannot say.

They steep glutinous rice in cocoa-nut juice and after a fortnight it becomes spirits but of a very pungent taste, but after two months the taste is like that of the *hai-lü* fruit (海榴結實). They also ferment pomegranates; the flavour of this liquor is sweetish sour, it is good for slaking thirst.

The native products include cardamoms, elephants' tusks, kingfishers' feathers, beeswax, cotton muslins.

The goods used in trading are copper and lacquer ware, blue and white porcelain cups, bowls, pots, and bottles, trade silver (花銀) dark red beads, Wu-lun cottons (巫崙布),¹⁾ etc.

Sumatra and adjacent localities.

22 (1). *Tao i chih liö*. 49. LUNG-YA MÂN²⁾ (龍牙門).

Singapore Strait.

The strait (門) is bordered by two hills of the Tan-ma-hsi barbarians (單馬錫番) which look like dragons' teeth (龍牙, *lung-ya*), between them there is a water-way.

1) Wu-lun is said to have been a dependency of Java, see *infra*, 34 (1). Wu-lun cottons are frequently mentioned in the *Tao i chih liö*.

2) There exists among Western scholars a diversity of views as to the location of this important strait. Some identify it with the Straits of Lingga, while others believe it is the Singapore Straits, or rather the New Harbour (Keppel's Harbour) of Singapore. See Warren D. Barnes, *JSHRAS*, Dec. 1911, pp. 24-25.

The earliest writer to refer to the Straits of Ling-ya appears to be Chao Ju-kua (1235) who says in his *Chün fan chih* (1, 5) that a junk sailing from Ch'üan-chou in Fu-kien in the winter time and with a favourable wind could reach the Lóng-ya mán (凌牙門) after a voyage of a month or more. Here traders paid a toll, after which they made directly for San-fu-ch'i (on the Palembang, or Jambi, river). There seems very little room for doubt that the strait here referred to is the Lingga Strait.

Wang Ta-yüan, writing an hundred and twenty-five years later, tells us in the above translated chapter that Ch'üan-chou junks returning to China from the "Western Seas", after having made Carimon (Great Carimon) island had to pass through the Lung-ya mán. In another passage (*infra*, 24 (1)), he says that San-fu-ch'i (the Jambi district in Sumatra)

The soil is poor and paddy fields few. The climate is hot and in the fourth and fifth moons there are very heavy rains. The people are addicted to piracy.

was a five days sail from the Lung-ya Strait. Elsewhere he tells us that the Strait of Lung-ya mên was inhabited on both sides by a people called Tan-ma hai. In another chapter (33, Hsien, see *supra*, 5 (1)) he refers to an attack by pirates from Hsien (Siam) on the walled city of Tan-ma-hai a little while before he wrote his book; an attack which was given up on the unexpected arrival there of a Chinese mission. In still another passage (62, Nao-wu-li, *infra*, 31 (1)) he again refers to the piratical habits of the people of the same locality, although the text gives the name as Nin-tan-hai (牛單錫), which seems to me to be an error for Tan-ma-hai. George Phillips' Chinese map places a Tan-ma-hai on the Malay Peninsula near the "Long waist island" (長腰嶼) which seems probably to be the island of Singapore. There seems little room for doubt that Tan-ma-hai is the Tamash of the Nagaravamsigama (written in 1363).

There is a note written on the XVII century chart in the *Wa pai shih* (武備志, 240), reproduced by George Phillips; he translates it as follows: "Going from Malacca for five watches the vessel sights Sejin Ting and Batu Pahat river (the text has only Shih-ch'ien shan, 射箭山), three watches from which Pesang island (毘宋嶼) is reached, and in five watches more Carima (吉利門) is reached; five watches more S. E. by E. brings the vessel off Long Waist Island (長腰嶼, Singapore) and into the Lingga Straits (龍牙門), through which for five watches on a course E. by a very little N. the White Rock (白礁, Pedra Branca) is reached. (The text on the map says: "吉利門五更船用乙辰及丹辰針取長腰嶼出龍牙門龍牙門用甲卯針五更船取白礁). From Pedra Branca N. E. by N. for five watches the vessel is to the eastward of Se-chui shan and Tung chui shan (東西竹山, Pulau Aur), from which a course due N. for a time and then N. E. by N. and then N. by a little E. brings the vessel to the eastward of Palo Condor (崑崙山)....."

The conclusion is forced upon us that the Lung-ya mên of Chao Ju-kua has nothing to do with the Lung-ya mên of subsequent writers, that in the case of the older writer the Straits of Lingga are referred to, while in the case of Wang Ta-yün and subsequent writers Lung-ya mên is Singapore Straits.¹⁾

In the *Hai gang chao tung tien to*, 1, 15 (Man-lu-kia) in the sailing directions from Palembang to Wu-hüi (Malacca), it is stated that, "Going from Ch'in-chiang (Palembang or Jambi) one passes after ten watches to the right of Kuan-hüi (官嶼), then in five watches one arrives at Chang-yao hai (長腰嶼) and eight San-to-hüi (三佛嶼) and Ab-yü-hüi (鰐魚嶼). Five watches more and one arrives in the waters

¹⁾ See Shen Tsung-chih, *Tao i chih liu kuang cheng*, 32, 1.

In ancient times the chief in digging the ground found a jewelled cap. When the moon is first seen at the beginning of the year is counted the first day of the first moon (正月初); on that day the chief, wearing (this?) cap and putting on his best clothes used to receive the congratulations (of the people). At the present time, however, they exchange presents among themselves (as we do in China).

Men and women live mixed up among the Chinese. Most of them do up their hair in a chignon, and wear a short cotton shirt with a blue cotton sarong tied around them.

The natural products of the country are coarse laka-wood and tin (斗錫). The goods used (by the Chinese) in trading here are

of Kun-pa mén (甘巴門) which flow with great impetuosity (溜迅急); to the right is what is called the Jên-i rocks (仁義之礁); to the left the Nin-wei rocks (牛尾之礁); in front is the Kuei hsü (鬼嶼). Five watches more and one comes to the Pi-tsung hsü (披宗之嶼, Pulau Pisang), and in five watches more to the island of Shih-ch'ien (射箭之山, Sejin Ting), and in five watches more one comes to the Wu-hsü hsün shan (五嶼循山, "The Five Islets Group", Pulau Panjang?) and one has reached this country (of Ma-la-lia).

"It is also said that one (can) arrive (at Malacca from Ch'in-chiang?) by the Strait of the Island of Lung-ya (或曰入由龍牙山門), the shape of which passage is like the horns of a dragon".

Without being able to identify all the points indicated on this course, it seems that it ran east of the island of Lingga (the eastern extremity of which, Jang Point, may be the Kuan hsü of the text), thence by the Rhio Strait between the islands of Rintang and Batam into the Singapore Strait. The Kan-pa mén of the text would seem to be the western extremity of the strait.

The "Strait of the island of Lung-ya" can only be the Strait of Lingga, the author's remark meaning that there was a course which could be steered in going from Palembang to Malacca without going by the previous way, *via* the Singapore Strait.

It is noteworthy that in this passage the author, quoting, presumably, the *Chiao-wei pien* previously referred to, speaks of Malacca as Wu-hsü, or the "Five Islets", a name which was only used by the Chinese prior to 1409. This may throw some slight light on the date of these "sailing directions", or at least of this one.

red gold, blue satin, cotton prints, Ch'u-chou-fu porcelain, iron caldrons, and such like things.

Neither fine products nor rare objects come from here, all they have is the product of their pillaging of the Ch'üan-chou traders. When (Chinese) junks go to the Western Sea these people let them pass unmolested, but when on the way back they have reached Carimon island (至吉利門) then the junk people get out their armour and padded screens against arrow fire to protect themselves, for, of a certainty, two or three hundred pirate junks will come out to attack them. Sometimes they may have good luck and a favouring wind and they may not catch up with them; if not, then the crews are all butchered and the merchandize made off with in short order.

22 (2). *Hsing ch'a shêng lan*. 17. LUNG-YA MÈN¹⁾ (龍牙門).

This place is to the north-west of San-fo-Ch'i. There is here a passage-way between hills facing each other and which look like dragon' teeth; through this ships must pass. The soil is barren, the crops very poor. The climate is constantly hot. In the fourth and fifth moons it is very rainy.

Men and women do up their hair in a knot; they wear a short shirt and wrap a sarong around them. They are most daring pirates. If a foreign ship happens to come that way they attack it with hundreds of their little boats. If wind and luck are favourable it may escape, if not, they will plunder the ship and put to death crew and passengers.

1) Cf. Groeneveldt, *op. sup. cit.*, 79.

23 (1). *Tao i chih li*. 44. PAN-TSU¹) (班率). Panchor(?)

This locality is the hill back of Lung-ya mǎn, it is like a coil cut off (at the top), it rises to a hollow-topped summit enclosed in a series of (rising) slopes (*lit.*, coils); as a consequence the people live all around it.

The soil is poor and grain rather scarce. The climate is not regular, for it rains a great deal in summer when it is rather cool.

The people are straightforward. They wear their hair short with a turban of gold brocaded satin, and a red oiled cloth wound around the body.

They boil sea-water to make salt, and ferment rice to make a kind of spirits called *ming-kia* (明家). They have a ruler.

The native products include cranes' crests of superior quality, middling quality laka-wood, and cotton.

The goods used in trading are green cotton stuff (綠布), pieces of iron, native cotton prints, dark red gold (紫金),²) porcelain-ware, iron pots, and such like things.

1) *Ming shih*, 3326, 11^b, has a brief reference to a country which it calls Ka-li pan-tau (古里班卒) and which frequently came with tributs during the reign of Yung lo. All it says of it is "the soil is barren, the crops sparse; its products are poor. The habits and customs are not good. There is much rain in summer, when it is cold."

Pan-tau may stand for *Panchar*, a Malay place name occurring in several places, on the coast of Malacca among others. It may be that Pan-tau is Batam or Bintang island. Pointly it may stand for Panjang (though the transcription is unusual, 班冲 would probably be the correct one), in which case we might look for it in Pulo Panjang near Bantam (Java).

2) *Ko-lu yao lan*, 4, 10^a, says that *tsu chiu* was anciently the name of a half tael coin. "At the present time (*i. e.*, A.D. 1388) it is made with red copper (赤銅) mixed with gold. Real *tsu chiu* is not often seen nowadays".

24 (1). *Tao i chih lio*, 29. SAN-FO-CH'1 (三佛齊). Jambi district.

One arrives in this country after a voyage of five days and nights from the Lung-ya mên (Singapore Strait).

Many of the men have the family name of P'u (蒲). They are fond of fighting both on sea and on land. The fighting men swallow a drag which prevents swords from wounding them, so they are the most daring men in the world.¹⁾

The country is densely populated, the land fertile and beautiful, the climate hot. In the spring and summer it rains continuously.

The usages of the people are honest and pure. Both sexes do up their hair in a chignon and wear a short blue cotton shirt, and wrap around them a piece of *tung-chung* cotton cloth (東冲布).²⁾ As they are fond of cleanliness they have their dwellings on frames over the water. They gather oysters of make *cho* (鮓, chutney).

They boil sea-water to make salt, and ferment glutinous rice (秫) to make spirits. They have a ruler.

The native products are plum-blossom (and) flake camphor of middling quality, laka-wood, betel-nut, cottons stuffs, and fine carved wood.

The goods used (by the Chinese) in trading are coloured taffetas, red beads, *ssü pu* (shawls),³⁾ coloured cotton stuffs, copper and iron pots, and such like.

1) The first phrase of this paragraph is a quotation from *Chu-fan chih*, 1, 6'. The latter part may be derived from *Ling wai tai ta*, 3, 10—11. See Hirth and Rockhill, *op. sup. cit.*, 63. Wang applies the name San-fu-ch'i to the whole region along the Jambi river.

2) *Tung chung* may be an abbreviated form of *Tung-chung-ku-fa* (東冲古刺) to which the *Tan i chih lio* devotes a chapter (22, *infra*, 48 (1)) and which appears to have been in Western Borneo.

3) See *supra* 13 (1), Note 2.

According to an old tradition the earth (once upon a time) suddenly broke open and several myriad of cattle came out. The people captured them and ate them; afterwards (or later on) they took bamboos and closed (the crevasse) finally and forever.¹⁾

25 (I). *Tao i chih liu*. 41. CH'IU-CHIANG (舊港). Palembang.

From Tan-chiang (淡港) one enters the (Straits of) P'ông-kia môn (彭家門).²⁾ The people use bamboo (rafts) instead of boats. Along the roads there are many brick pagodas. The profit they derive from their fields is double that of other countries. It is a common saying that if grain were planted one year the third year gold grew, meaning that the grain was changed into gold. After a while, people from the Western Ocean, having heard of the fertility of their soil, came in ships and took from the fields some of the bone of the earth (取田內之土骨) to carry back to their fields to establish a current between them and this country (以歸彼田爲之脈); but though they planted grain, but the gold of the fields of Ch'iu-chiang did not grow. This is a strange thing!³⁾

The climate is rather hot. Men and women do up their hair in

1) Taken from *Chiu fan chih*, I, 6* (San-to-ch'ü). Hirth and Rockhill, op. sup. cit., 61. On the subject of the early relations with Sumatra, see the interesting article of G. P. Rouffaer in *Encyclopedie van Nederlandsch-Indië*, IV, 199-210.

2) That is to say. When one leaves the mouth of the Jamhi river or Sungai Sumang here called "the fresh water estuary or Tan-chiang" one first enters (on the way to the Java Sea) the Straits of Banca (P'ông-kia môn). The *T'ing gai shêng lan* (infra, 25 (2)) has slightly amended this phrase of the *Tao i chih liu*, as has also the *Hsing ch'ü shêng lan*.

3) *Tung tai yang k'au*, 3, 14* says "Ch'iu-chiang was called Ya tu (沃土 or the fertile land"), for there was a saying that if one year grain was sown the third year gold grew, meaning that the crops were so abundant that much gold was got by trade."

a chignon and wear a sarong of white cotton. They boil sea-water to make salt, and ferment the syrup of the cocoa-nut to make spirits. They have a ruler.

The native products include gharu-wood, (of the *huang-shou-huang-tou* variety), *kin-yin-hsiang* (金銀香), cotton superior to that of any other foreign country, beeswax, coarse laka-wood, very big cranes' crests, and (real) gharu (沉香) of medium quality.¹⁾

The goods used (by the Chinese) in trading are small coloured Mên-pang beads (門邦九珠), *ki-lin* kernels (麒麟粒), Ch'u-(chou-fu) porcelain-ware (處菟), copper caldrons, coloured cotton stuffs, big and little water-jars and pots, and such like things.²⁾

25 (2). Ying yai shêng lan. 3. Ch'iu-chiang (舊港).

It was anciently called San-fo-ch'i (三佛齊).³⁾ It is also called Po-lin-pang (浮淋邦, Palembang) and is under the rule of Chao-wa (Java). To the east it adjoins Chao-wa, to the west Ma-la-kia (Malacca). To the south it reaches to high mountains and

1) *Kin yin hsiang*, in Malay *benuajau*, is sweet lincain, see Hirth and Rockhill, *op. sup. cit.*, 198 *Tung hai yang k'ao*, 3, 17, mentions among the products of Ch'iu-chiang naphla (猛火油).

2) I have found no explanation for "coloured Mên-pang beads". *Tao i chih t'ao*, 40, describes a locality called Su-mên-pang (蘇門傍) probably in or near Java, perhaps these beads came from there. "Ki-lin kernels" are mentioned again in this work (26) as an article of trade with the natives of Tan-mo (see *infra*, 38 (1)). See also *Hai yang chao kung tien lu*, 2, 2^a (Hsien-fo). It says "There is a tree the leaves of which are like those of the *ying t'ao* (櫻桃) *Prunus pseudocerasus*, Lindl.) the sap of which drips like honey and after a while solidifies and becomes of a dark red colour like glass (膠). It is called *ki-lin ch'ih* (竭); it is injurious if eaten". It seems likely that *ch'ih* (竭) is an error for *li* (粒) "grain, kernel".

3) Cf. Groeneveldt, *op. sup. cit.*, 73-75. We have seen that the *Tao i chih t'ao* distinguishes San-fo-ch'i and Ch'iu-chiang, applying the first to the whole region of the Jambû river and the second more particularly to the town of Ch'iu-chiang (or Palembang) and its vicinity. In Ma Huan's time the name San-fo-ch'i had ceased to be in use. This chapter was translated by Groeneveldt, *Notes*, 73-75.

on the northwest it goes to the sea-coast. Junks (coming from Ch'iu-chiang) enter the Tan-chiang (淡港), then enter P'êng-kia (彭家, Banka). They have to transfer to small boats to go up the (Tan-) kiang to reach the capital.

Many of the inhabitants are immigrants from Kuang-tung, Chang-chou and Ch'üan-chou.

This country is fertile and the population dense. The soil is good for farming purposes. There is a common saying to the effect that if one season they till the soil the third season they gather rice (收稻), the word *shou* (收) meaning to reap a large space (穫廣).¹⁾

There is a great deal more water than land. The inhabitants are given to fighting on the water. Only the dwellings of the highest officers (將領) are on the banks of the river, the people live scattered about on bamboo rafts tied to a root of a tree or a post, moving on the tidal stream (港) with the rise and fall of the tide.

The habits and customs and the language are the same as in Chao-wa.

In the Hung-wu reign (of the Ming, A.D. 1368—1398) there was a Kuang-tung man called Ch'ên Tsu-i (陳祖義) who being a proscribed man fled to this country and became a chief, plundering ruthlessly passing travellers. In the Yung-lo reign (1403—1424) the Emperor ordered the eunuch Ch'êng Ho to take command

1) The point of the story is lost in the text. Instead of "they gather rice" we should, of course, read "they gather gold". Ralph Fitch, writing in the last quarter of the 16th century, speaking of Jambi says: Jambi is an island among the Javan also, from whence come diamonds. And the king hath a masse of earth which is golde; it groweth in the middle of a river; and when the king doth lacke gold, they cut part of the earth and melt it, whereof cometh golde. This masse of earth doth appeare but once in a yeare; which is when the water is low: and this is the month of April". Hakluyt, *Principal Navigations*, V, 499 (Hakluyt. Soc. edit.). This is evidently another version of this tradition.

of a fleet.¹⁾ When he arrived (in Ch'iu-chiang) there was a Kuang-tung man called Shih-kin-chê (施進者) who laid a complaint against Ch'ên Tsu-i before Chêng Ho. The latter ordered his soldiers to arrest him, and (Ch'ên) Tsu-i suffered decapitation. (Chêng Ho) gave (Shih) Kin(-chê) official rank, and he thereupon returned to Ch'iu-chiang and became chief. On his death, his daughter succeeded him, with power to raise to honours and punish the inefficient as he had done.²⁾

In their habits they are fond of gambling games, such as *pa-kui* (把龜), chess, and cock-fighting, in all of which they put up stakes in money.

In trading they use Chinese copper cash, (pieces of) cotton cloth, silk, and the like.

The native products include cranes' crests, *huang-lien* (*coptis teeta* rhizomes), laka-wood, gharu-wood, beeswax, and *kin-yin hsiang* which looks like an object made in inlaid silver-ware but black in colour with portions white. The finest kind is that in which the white colour preponderates over the black, the poorest that in which it is mostly black. When burnt it strikes the nose irresistibly. The westerners called So-li prize it.³⁾

The cranes' crest bird (鶴頂鳥) is bigger than a duck. Its

1) According to the *Hsing ch'a shêng lan* (*infra*, 25 (3)) Chêng Ho's expedition to Ch'iu-chiang was in 1413. Conf. *Hai yang chao lung tien lu*, I, 14* (Sun-so-ch'i). *Ming shih*, 304, 2*, says that Chêng Ho brought back Ch'ên Tsu-i a prisoner when he returned in 1407 from his first mission. Cf. also *Ming shih*, 324, 19* and Groeneveldt, *Notes*, 42, 71.

2) *Ming shih*, 324, 19*, states the facts differently. It says that the Cantonese who aided Chêng Ho to capture Ch'ên Tsu-i was called Shih Kin-ling (施進卿). The Emperor rewarded him for his services by conferring on him the title of Ch'iu-chiang Hsün-wai-sün (舊港宣慰司). In 1424 on his death his son (Shih) Ki-sün (濟孫) succeeded to the title. Cf. Groeneveldt, *Notes*, 71-72. This statement is important for fixing the earliest date at which Ma Huan can have published his work, it shows that it cannot have been before 1424.

3) Presumably Klings from the east coast of India, or Indians generally. Cf. *supra*, I (2).

feathers are black and its neck is long. The bone on its head is over an inch thick, inside it is yellow and outside red; it is altogether very pretty and much prized.¹⁾

The *huo ch'i* (火鷄 *lit.*, "fire fowl") is bigger than a crane. Its neck is also very long. It has a fleshy red comb (軟紅冠), a pointed bill, feathers the colour of a black sheep (? 青羊), long legs of black colour with such sharp claws that if it inflicts a wound on the stomach of a person he will die. It eats hot charcoal. It does not die in captivity.²⁾

The "fairy deer" (神鹿) is the size of a big pig, about three feet high with short hair, and a pig's snout, and like it with three clefts in the hoofs. It is herbivorous and will not come near strong smelling things.³⁾

Their cattle, sheep (goats?), swine, dogs, fowls, ducks, their esculents and fruits are like those of Chao-wa.

1) The *Tung Ai yang P'ao*, 2, 14^a says: Crane-crests are got from the *mang-kung* (鸚鵡, the rhinoceros hornbill, *Buceros bicornis*), an aquatic bird with a yellow bill over a foot long. It is used by the people of the South to make wine cups. According to the *Hua i K'ao* (華夷考) this product is obtained from a big sea crane. The natives of the islands kill it at night when nesting in the cliffs. See A. R. Wallace, *Malay Archipelago*, 137.

2) The *Hua i K'ao* (as quoted in *Tung Ai yang P'ao*) says: "The *huo-ch'i* comes from Man-la-kia (Malacca), it is of the size of a stork (鷺), mostly of a dark brown colour. It can eat fire and breathe out smoke and fire. Its young are of the size of a goose. The shell of its egg is extremely thick and heavy, it is mottled or white. The natives of the islands greatly prize the eggs which they gather for food." The bird referred to is the *Casuari* of the Malays, our Casowary. It must have been imported into Sumatra from the Moluccas where it is indigenous. See Groeneweldt, *Notes*, 198.

3) The "fairy deer" seems unquestionably to be, as pointed out by Groeneweldt, *op. cit.*, 199 (on the authority of the revised edition of the text), the Sumatran tupir, although I had also thought of the hog deer, the *kudy rany* of the Malays. *Hai yang chao tung tien fu*, 1, 13^a (San-fu-ch'i) says: "The animal called *shao lo* is like a big pig, three feet high, with black hair on the fore past and white on the hind past, a pig's snout and three clefts in its hoofs. It eats berka".

25 (3). *Hsing ch'a shêng lan*. 10. CH'IU-CHIANG (舊港).

Its old name was Kingdom of San-fo-ch'i. It can be reached from Chao-wa (Java) with a favourable wind in eight days. One reaches it after entering the mouth of the river.

The soil is very rich, twice as rich as elsewhere. There is an old saying that if one year they plant grain in three years gold grows up; meaning that the grain is so abundant that is safe brings in much gold. So it is that the people are well-to-do.

In their customs they are noisy and fond of dissipation. They are given to fighting on the water.

There is much water and little dry land at this place. The chiefs all build their dwellings on the shore, and their retainers and servants are lodged all around them. All the common people build their dwellings on bamboo rafts which they anchor with poles; should the water rise the rafts float without danger of sinking; should they wish to go elsewhere they pull up the poles and move away with their dwelling without trouble of expense.

At the present time it is under the rule of Chao-wa.

The natural products are *huang-shu haiang* (gharu-wood), *su haiang* (gharu-wood), laka-wood, *ch'ên haiang* (gharu-wood), beeswax, cranes' crests. The goods used (in trading) are coloured beads, blue and white porcelain, copper caldrons, coloured cottons and silk stuffs, coloured satins, big and little porcelain jars, and copper cash.

In the 13th year of Yung-lo (1415) Chéng Ho and others proceeding with the fleet to foreign parts, the pirate Ch'ên Tsu-i (陳祖義) and others, who were plundering foreign traders at San-fo-ch'i sought to attack them, but our fleet commanders laid an ambush, defeated them, captured them alive, and led the pirate chiefs to the Emperor. Hereafter, throughout the length and breadth of the Inner and outer Seas all was tranquil.

26 (1). *Ying yai shêng lan*. 6. A-LU (啞魯). ARU.

To the south it adjoins high mountains. To the north it reaches the sea. To the west it reaches Su-mên-ta-la (Achen). One can reach it by journeying by water from Man-la-kia (Malacca) for four days and nights.¹⁾

There is the Tan-shui chiang (淡水港) which on the east adjoins the wild lands (曠野地) and on which dry rice (旱稻) can be raised.

As to their usages the common people occupy themselves with farming and fishing.

The customs are pure and simple. Their marriage and funeral ceremonies are the same as in Java and Malacca.

In trading they use little (pieces) of cotton cloth called *k'ao-ni* (拷泥).²⁾ Rice, grain, cattle, sheep, fowls, and ducks are very plentiful as is also butter. All the people are Moslims.

The native products include the "flying tiger" (飛虎) of the

1) Cf. Groeneveldt, *op. sup. cit.*, 94—96. Aru bay lies within Pale Kampel and Pulo Sembilang on the N. W. coast of Sumatra. See *China Sea Directory*, 1, 92. The *Tau-i chih lo*, 55 (Tan-yang) see *infra*, 27 (1) seems to be the earliest Chinese work to mention it by name, though it gives no description of it. Conf. Groeneveldt, *Notes*, 94, he locates Aru around the mouth of the river Nekan. *Hai yang chao lung tien lu*, 2, 4*, says it was a four days' sail from the Tan shui chiang (Palembang river).

Duarte Barbosa, *op. sup. cit.*, 196, mentions "the Kingdom of Haru, of gentiles, who eat human flesh, and any person whom they can catch, they eat him without any mercy". Conf. Maraden, *History of Sumatra*, 298—299.

Hai yang chao lung tien lu, 2, 4 says of A-lu (阿魯): "This country is some eight hundred li south-west of Man-la-kia (Malacca)—and in four days with a favourable wind it can be reached via the Tan shui kiang. It adjoins Su-mên-ta-la to the west, to the south it spreads round big mountains, and to the north it adjoins the sea".

In the *Commentaries of Afonso Dalboquerque* (Hakluyt, Soc. edit., III, 87) it is said that the king of Malacca punished some criminals by having them "roasted and given as food to certain men who are like wild men, from a land which is called Daru, whom the king brought to Malacca to eat those condemned to this death". It seems likely that Daru is the A-lu of the Chinese.

2) Presumably a local native term.

size of a cat or dog, with ash-coloured hair and membranous wings like a bat's. It can fly but not far.¹⁾ There is also *huang-lien haiang* (rhizomes of *Coptis teeta*) and sweet benzoin (金銀香, *kâmshyan*), etc.

26 (2). *Hsing ch'a shêng lan*. 20. A-LU (阿魯).

This country faces Ch'iu-chou shan (九州山, Sembilang islands) and can be reached with a favourable wind in three days from Man-la-kia (Malacca). The customs and the climate present but very little difference from those of Su-mên-ta-la (Acheh).

The soil is poor and produces but little. The food of the people consists of bananas and coconuts.

Both men and women have the upper part of the body bare, they wrap a piece of cotton cloth around them. They make a living by going out on the sea in canoes dug out of a log of wood to catch fish, and by going into the hills to gather rice-camphor and aromatic stuffs. They all carry poisoned arrows and a cross-bow to defend themselves.

The native products are cranes' crests, flake and rice-camphor, (Baroos camphor), which they sell to the trading junks.

The goods used (by the Chinese in trading here) are coloured satins and silks, porcelain-ware and beads.²⁾

1) Probably some variety of flying lizard of the *Draco volans* genus, which are common in Sumatra, though they are not so large as our author states, or the flying lemur or gallopithecus, see A. R. Wallace, *Malay Archipelago*, 133.

2) *Hsi yang chao tung tien ts.*, 2, 4* (A-10) says in a note: In the 8th year of Yung lo (1407) Hsü king So-lo-t'ang Ho-kien (i. e. Sultan Hussein) sent his minister Man-la Hsuan (滿刺哈三) and others in company of the mission from Calicut with tribute to Court". Cf. Groeneveldt, *op. sup. cit.*, 95.

27 (1). *Tao i chih lio*. 55. TAN-YANG (淡洋).

Mouth of Tamiang River (Sumatra).

The anchorage (港口) is distant from the official seat over an hundred *li*. Outside (Tan-)yang is the Sea, inside a large river (溪) whose source is over two thousand *li* away, its swift current flows on the surface of the sea, and one stream (or branch, — 流) is clear and sweet (清淡). Frequently sailors passing along this way and being in want of fresh water draw from here, hence the name of "Tan-yang, or sweet water sea". When once it is passed by there is no sea-water found which is not salty.¹⁾

In the hollows of the hills there is arable land but most of it good for nothing. The climate is hot, the habits of the people chaste. Men and women do up their hair in a chignon and wrap around them Liu pu (溜布).²⁾ They have chiefs.

The natural products are laka-wood as aromatic as that of A-lu (亞蘆); the rice though small is of good flavour when cooked.

The goods used (by the Chinese) in trading are dark red gold, iron-ware, coarse bowls (of china-ware) and such like things.

1) *Hai gang chao lung tien lu*, 52, 5, places Tan-yang 10 wathes west of A-lu. It must be the estuary of the Tamiang river (the big river referred to in the text) to the westward of Ujung Tamiang, Lat. $4^{\circ} 35' \frac{1}{2}$ N. Long. $98^{\circ} 17'$ E. on the N.W. coast of Sumatra. The same work (I, 4^o Chan-ch'eng) describes Tan yang among the dependencies of Chan-ch'eng. Pelliot, *BEFEO*, IV, 327, suggests that the *Yüan shih* (17, 9) may have a reference to Tan-yang, under the form 毯陽, in a passage where it speaks of a mission from Sumatra (Su-ma-ta 蘇麻答) Ki-mo-liao (繼沒刺牙), which Pelliot suggests with great probability, to be an error for Mo-lu-yü (予, the Malais of Polo, or Palembang).

I overlooked the note by Pelliot when I translated this passage in the first part of the present study (*Tung pao*, XV, 442) and have probably read these names wrongly, or rather divided them wrongly.

2) Presumably a cotton fabric made in the Maldiva Islands.

27 (2). *Hsing ch'a shing lan*. 21. TAN-CHIANG (淡港).

This place is adjacent to A-lu, and is distant from Man-la-kia (Malacca) three days journey. It is surrounded by a bay (港) into which a big stream empties which flows out into the sea, retaining for a thousand *li* all the sweet freshness of its waters. Sailors, when once they have passed it find no such other place. It is called Tan-yang.

The soil is rich, the crops are luxuriant. Though the grains of rice are small they are of excellent flavour when cooked.

The soil produces aromatics. The customs of the people are very honest. The climate is constantly hot.

Men and women do up their hair in a knot and wrap around their middle a piece of cotton cloth.

The goods used (by the Chinese in trading) are gold, silver, iron-ware, and porcelain-ware.

28 (1). *Tao i chih* are? 21-SHUI-WAN (急水灣).
Surat Passa north Sumatra(?)

The bay is below the foot of Shih-lu (石綠嶼). The current in it is swift and eddying. When there is no moon and the day and night tides running north and south (月遲延兼以潮汐南北), sailors are unable to make soundings and the junk gets into whirlpools and is lost for a month.²⁾

1) Cf. Grosserclain, *op. sup. cit.*, 93.

2) *Ch'ü shui wan* means "the bay of raging waters"; the other names for points along the Sumatran coast, this is a purely Chinese one. It would seem that it must be either the Surat passage (Sawang Arus Kechil). See *China Sea Pilot*, 1, 60. It is between Kechapa, pulo Bras (the Shih-lu inlet of our text) and pulo Angkara, on the N.W., and the promontory of Anich on the S.E. "It is funnel-shaped, narrowing from about 2 miles to less than 2 miles in width. The tidal stream is rapid, it sets N.E. directly through

29 (1). *Ying yai shêng lan*. 8. LI-TAI (黎代). Lidé.

Li-tai is a little country. To the south it confines on big mountains. To the north it reaches to the sea. To the west it adjoins the country of Nan-po-li (Lambri), and to the south-east it confines on Na-ku-erh.

The inhabitants (of Na-ku-erh) number one to two thousand families. Now they have one man as their lord, but they are subject to the rule of Su-mên-ta-la, and whatever they do or do not do they depend on it (操舍一聽之).

As to their language and kind of clothing they are as in (Su-mên-ta-la). In the mountains are found great plenty of wild rhinoceros.¹⁾

30 (1). *Tao i chih liu*. 54. HUA-MIEN (花面). The Battaks (Sumatra).²⁾

The coast is winding (其山透迤), the soil marshy but very fertile, so that it produces more than the people need for food.

Men and women prick their faces with a black juice which is the reason for this country being called "the Country of the Tattooed Faces".

1) Cf. Groeneveldt, *op. cit.*, 38. The *Tao i chih liu* and the *Hsing ch'ê shêng lan* do not mention this district. The text reads the name Li-fa (黎伐) but I have not hesitated to correct the second character to tai (代) as the *Sai ên ch'uan shu t'ung* synopsis of this work the name as Li-tai. It is the states; he places it between Pedir on the west and Sulu on the east; he, 140—141. Guvini, *Ptolemy's Geography*, 688, identifies it with Baul, at about 140 miles west of Merda. *Yang ch'ê*

Hai yang ch'au ê
Na-ku-erh and Li-tai submit Chi

On Na-ku-erh, cf. *infra*, 60

2) This is the earliest mention (拔脊), a dependency of San

to (Su-mên-ta-la) countries (of Na-ku-erh) (羈事) to the south.

the name is given to the mountain.

is tribe by Chinese writers, unless the Pa-t'ê (巴達) according to *Chu-fan chih* (7. San-fu-ch'i) is the

The climate is extremely hot. The people in their habits are chaste. They have chieftains (or a chief ruler).

The products of the country are cattle, sheep, fowls, ducks, betel-nuts, sugar-cane, sirih leaves and cotton.

The goods brought there by ships for trade are iron in bars, blue cotton cloth, coarse bowls, blue Ch'u-chou-fu porcelain ware, and such like, but junks come only to this place to supply their daily wants (in provisions) which is all the place furnishes.

30 (2). *Hsing ch'a shêng lan*, 23. HUA-MIEN KUO-WANG

(花面國王).

This kingdom is near Su-mên-ta-la and winds along the shore of the sea of Nan-wu-li. The soil produces a sufficiency of rice. The climate is irregular, the customs of the people boorish. All the men prick in black on their faces flowers and animals. They have apish heads and naked bodies; they wrap a piece of cotton stuff around their loins. The women wrap a piece of coloured cotton stuff around them. They do up their hair in a knot behind. There is great plenty of cattle, sheep, chickens, ducks, and gauze (羅布). The strong do not despoil the weak; high and low eat the products of their own fields; the rich are not proud, the poor are not thievish. It may truly be called a land of goodness.

same. Nicolo di Conti (Ramusio, I, 339^o) speaks of the *Boteek* of the island of Tyroba (Sumatra). Cf. Devic and Van der Lath, *Livre des merveilles de l'Inde*, 126. These writers identify Lida with the country of the Battaks.

The *Ting gai shêng lan* has a passage on these tattooed-people, which it says were also called Na-ku-erh, at the end of the chapter. Su-mên-ta-la, see *infra*, 32 (3).

Hai yang chiao tung tien-ta, 2, 10 (Su-mên-ta-la) says: "to the west of this country (of Su-mên-ta-la) it is called Na-ku-erh. About a thousand families. . . . and still farther west is Li-tai wit² . . . two thousand families".

Cf. Gerini, *Recherches on Ptolemy*, 674, and G. Phillips, *JCBRAN*, XX, 221.

The native products are aromatics, blue lotuses, and *chin-pu* (近布).

There is a mountain called Na-ku-erh (那姑兒) which produces sulphur. When our fleet was stationed at Su-mên-ta-la some men were sent in a boat to this mountain to get sulphur.¹⁾

The goods used (in trading here) are satins, silks, and porcelain. The ruler was much touched by the Imperial bounty and has constantly sent tribute to court.

31 (1). *Tao i chih li*. 62. NAN-WU-LI (喃哩哩). Lambri.

This place (i. e., the port where Wang Ta-yüan's junk anchored?) is the most important trade-centre of Nan-wu-li. Great mountain-like waves dash against it; it is on the edge of the Jih-yüeh wang Sea (明望洋之際) in which it is doubtful whether there is any land.²⁾

The natives live all over the hills, each family in its own house. Both men and women do up their hair in a knot and leave the upper part of their bodies bare, wrapping a piece of cloth around them as a sarong. The soil is poor, the crops sparse, the climate hot. As to their customs they are given to piracy like the people of Niu-tan-hai (牛單錫).³⁾

1) Cf. Groeneveldt, *op. sup. cit.*, 97. — *China Sea Pilot*, I, 62, says that there is a sulphur mine some two hours walk from the chief village of Palo Weh on Batshan Bay on the S. W. coast of the island. I have found none other mentioned in this part of the island, though from its volcanic character there must be many deposits of sulphur. Linchols, I, 109 (Hakluyt Soc. edit.) mentions in Sumatra "a hill of Brimstone that burneth continually, and they say there is a fontaine which runneth pure a simple Balsame (i. e., Naphtha), it hath likewise great store of Silke". Cf. *infra*, 32 (2).

As to the tissue called *chin pu* I can offer no suggestion as to its nature. The name does not, so far as I know, occur elsewhere.

2) Cf. Hirth and Rockhill, *op. cit.*, 3. The Jih-yüeh wang yang or "the Sea facing the sun and moon" is the same as the Nan-wu-li or Sea of Lambri.

3) It seems highly probable that this name Niu-tan-hai should be corrected so as to

The native products are cranes' crests, shells of turtles, tortoise-shell and laka-wood, superior to any other in aroma.

The goods used (by the Chinese) in trading here are gold, silver, iron-ware, rose-water, red *sai pu* (絲布),¹⁾ camphor, porcelain-ware with designs in blue and white, and such like things.

A ship on its homeward voyage may escape the winds and waves and good luck may have carried it clear of all dangers from monsters of the deep, but when passing this place it will without a doubt fall into the tiger's mouth unless it can quickly catch "the violet wind" and make off.²⁾

31) (2). *Ying yai sheng lan*. 9. NAN-PO-LI (南浮里).³⁾

This country borders on the sea. To the east it adjoins Li-tai,

read Tan-mah-ai (單馬錫) which may have been near Singapore Strait or the Strait of Lingga, but which at all events is mentioned by Wang as a nest of pirates, as apparently was Lambri, which he calls for that reason "a tiger's mouth".

1) Presumably a red muslin, elsewhere called *hai yang sai pu* and *hai yang pu* and which, according to Ma Huan was manufactured in India.

2) On the subject of Lambri, see the travels of Friar Odoric in Cordier's edition of *Cathay and the way thither*, II, 146.

3) See Groeneveldt, *op. sup. cit.*, 98—99. — *Hai yang chao kung tien lu*, 12, 8* (Nan-mo-li) says in a note: "In the 7th year of Yung-lo (1409) the king, his ministers and some tens of persons came to the capital on the junk of the mission when they came back".

Gerul, *op. sup. cit.*, 662—664, thought Lambri might be represented by the present village of Lam-barik on the left bank of the Angh River not far from Kotaraja, the present capital.

The *p'o-ss* tree grew in the Western Paradise and bore the fruit of eternal life.

Hai yang chao kung tien lu, 12, 8* (Nan-po-li) after referring to the coral tree says "From Sha-li-pu-tan (Jurlattan) steering by the compass for ten days and nights one sights successively the Kuan-yen island (觀延嶼), after that the Chang-yang-(or "Central") island (中央嶼), whence sailing by Nin-ling shan (牛嶺山) one arrives in this country (of Lambri). To the east this country confuses on Li-tai, to the west it adjoins the Ocean, to the south it confuses on big mountains, west of it in the Ocean there is an island which rises straight up, it is called Mao-Shan. West of this island is the Ocean of Lambri (Na-mo-li yang").

Pala Web, the north-east easternmost and the

to the north-west it adjoins the sea, and to the south it is adjacent to high mountains, and south of (these) mountains it borders on the sea.

There are hardly one thousand families and all are Mussulmans.

The customs and usages are rough and honest. The king lives in a high building (樓) forty feet high and surrounded by a board fence; it is very orderly and secluded, but the lower part of it has no walls, and cattle and sheep are stabled in it. The people live as in Su-mên-ta-la.

In trading they use copper coins. The native products are cattle, sheep, fowls, and ducks. Rice is scarce, but vegetables and fruit are abundant (as are also) fish and shell-fish. Its laka-wood is of exceptional quality; it is called *lien-hua chiang-chên* (蓮花降眞, "lotus flower laka-wood"). There are rhinoceros.

To the north-west in the Ocean a half day's distance there is a table island called Mao shan (帽山), or "Hat island" (Pulo Weh). The sea, which is the Western Ocean, is called (Sea of) Namu-li (那沒黎, i. e., Sea of Lambri). All ships take their bearings by this island. In the shallow water around the island there grows a tree which is the coral tree. When big it is two to three feet high, its detached branches are as great prizes as if of the *p'o-so* tree (婆娑). The root can be made into balls and utensils.

Around the island there dwell some twenty to thirty families each one of which calls itself king. When one of them is asked who he is, he replies, "*a-ka la-cha*" (阿孤刺楂, Malay, *aka rajá*), which means, "I am a king" and whoever is asked, at once makes the same reply. It is most strange and laughable.

(Mali) which rises to a height of 2395 feet and may be seen in clear weather at a distance of 36 miles, *China Sea Pilot*, 1, 61.

It is said that Cheng Ho's first visit to Lambri was during his mission in 1405, and finally in his mission of 1430. (*Ibid*, 325,

It (the Mao-shan?) is under the rule of (Nan-)po-li. It can be reached by ship from Su-mên-ta-la in three days and nights.

32 (1). *Tao i chih liu*. 50. HSÜ-WÊN-TA-LA (須文答刺).

Sumatra (Acheh).

(Hsü-wên-ta-la) is shut off (from the sea) by a high range. This place is near the sea; its soil is gravelly and grain is scarce.¹⁾

Both men and women wrap around them a sarong of cotton cloth. Their habits are simple.

Their ruler is very fine in his personal appearance, the colour (of his clothing?) must be changed daily three times, to blue, to black, and to dark red. Further more they must annually put to death some ten men and bathe him in the blood, by which means he will be free from any contagious disease during the whole year; so the people stand in terror of him.

Men and women do up their hair in a knot and wrap a red cotton cloth around them.

The native products are camphor, coarse laka-wood with but slight perfume, cranes crests, and tin. They cultivate the *chieh* tree (茄樹) which grows over ten feet high. After three or four years it does no produce many *chieh* (茄). They pick off the fruit by

1) Samara of Polo, Samoltra of Friar Odoric. It is generally thought to have stood on the northern coast of Sumatra between Diamond Point and Pedir Point, somewhere about the present Samalangan or on the Teluk Semawe. It seems to me very difficult to reconcile the sailing directions of the *Hsi yang chao lung tien lu* (*supra*, 145) and the report of Juan Scrano (beginning of XVIth century, *see infra*, 152) with this location, I would be disposed to seek for it south-east of Acheh Head, say on Daya Bay; my chief argument in favour of this position of this town is based on the position of the Chi shai wan (*supra*, p. 144). If I am wrong; then we must place these rapids near Diamond Point or even south-east of it.

means of ladders. (These fruit) are like water-melons, large ones weigh over ten catties.¹⁾

The goods used in trading here are *hai-yang-shū pu*, camphor, rose-water, yellow oiled-cloth umbrellas, blue cotton cloth, coloured satins, and such like articles.

32 (2). *Ying yai shêng lan*. 7. SU-MÊN-TA-LA (蘇門答刺).
Na-ku-erb (那孤兒).

Su-mên-ta-la is the same as the kingdom of Hsü-wên-ta-na (須文達那) of former times. To the south it confines on a big mountain, to the north it reaches to the sea, to the east it like-wise reaches the mountains and confines on the country of A-lu (阿魯); to the north it reaches to the sea and confines on the two little states of Na-ku-erb and Lâ-tai.

(Su-mên-ta-la) is an important emporium of the Western Seas; one can reach it by travelling south-westward from Man-la-kia (Malacca) with a fair wind in five days and nights. Before reaching it (one arrives at) a village on the sea-coast called Ta-lu-man (答魯蠻) where one leaves the ship and after ten *li* (by land) one comes to the city. It has neither walls nor suburbs. There is a big stream (which passes by it and) flows into the sea. The ebbing and flowing of the tide causes great waves at the mouth (of this river), so that ships are frequently wrecked there.²⁾

1) The ordinary meaning of *ch'ien* is egg-plant, but there seems to me little doubt, in view of the parallel passage in the *Hsiang-sha shên-lan* (*infra*, p. 157) that the durian is meant. Cf. *Tung tai yang Pao*, 4, 8, where the durian is called *lan* (瓜).

2) Cf. Gronoveldt, *op. sup. cit.*, 85—87, 94. The Batavia landed at this port of the town of Sumatra. He says (*Pagaya*, IV, 229). "We landed at the *bandar* or port which is a large village on the seashore, and where are houses; it is called Sarhu, and is four miles from the city (of Sumatra)". Of this city he says (*Ibid.*, 230): "It is a fine and large city with a wooden palisade and towers also of wood".

Juan Serano visited this city in the beginning of the XVIth century; he says, "Having left

Formerly the tattooed-faced king of Na-ku-erh invaded (Su-mên-ta-la) when (its king) in a fight against him was defeated and killed. His son was a weak child unable to avenge him, so his wife in anger cried out: "He who can avenge this, him will I wed, and share with him the sovereignty." There was an old fisherman (漁翁), who on hearing this, led troops, defeated the tattooed-face king and killed him, and restored peace to the country. The queen kept her promise and married the old fisherman and granted him the government of the country.¹⁾

In the 7th year of Yung-lo (A.D. 1409) the king came and offered tribute at court. The Emperor commended him, and in the 10th year (1412) he sent a mission to his country. The pretender (*i. e.*, the son of the killed king), supported by the tribes, had (in the meantime) murdered the king, that is to say the "old fisherman", and his son, Su-kan-li (蘇幹利) at the head of a lot of people

Pedir and gone down the northern coast, I drew towards the south and south-east direction and reached to another country and city which is called Sumatra, in which we saw many merchants; and in a single quarter we counted five hundred changers, besides other quarters where there many others. The people are all dressed in cotton. They navigate with vessels made of a certain wood which looks like canes; they call them *juncos* in the Malay language. See *Description of the coasts of East Africa*, 226, 227 (Hakluyt, Soc. edit.)

Already in Wang Ta-yân's time the name of Archah, as synonymous of Su-mên-ta-la, was in use. In the chapter on Chung-ka-la he uses it, writing it 亞曲時. Cf. *Tung hai yang I'au*, 4, 3rd-4.

G. P. Rouffaer, *op. sup. cit.*, IV, 387, places the Ta-lu-man of our text on the Teluk Semau. I am, for reasons given in a previous note (*supra*, 82, n. 2.) inclined to look for it farther west on the north coast, possibly even on the west coast.

1) *Hai yang chao lung tsa lu*, 32, 6* (Su-mên-ta-la) has the following in a footnote: "In the 3rd year of Yung-lo (1405) its king So-tas He-nan a-pi-chia (Handal Abidin? See *T'oung pao*, 1900, 344) sent his minister Ali with tribute to court, when a patent of investiture (as a feudal prince of the Empire) was conferred on the king. From the year 1407 to 1431 there came repeated missions from this country bearing tribute and petitions on leaves of gold. In 1435 it asked for a patent of investiture for the heir to the throne".

This work writes the name of the son of the Old fisherman Su-kan-li, as does the *Hsing-ch'a shing-tan*.

Cf. E. H. Parker, *The Island of Sumatra*, 126-137, (*Imperial and Asiatic Quarterly Review*, January, 1900).

had fled to hiding in the steep mountains, where, after a while, he had been attacked (by the son of the former king) who had wreaked vengeance on him.

In the 11th year of Yung-lo (1413) the eunuch Chéng Ho arrested him (Su-kan-li) and sent him to the capital (of China) for punishment, and the son of the old king, filled with gratitude, prepared tribute for the Court.

The climate of this country is as hot as summer when the sun is up, and as cool as autumn after sunset. During the fifth and sixth moons malaria is prevalent.

The usages and customs are good and honest. Their language, modes of wooing, and marrying, their funerals and clothing, are the same as in the kingdom of Man-lu-kia (Malacca). The people also live as they do there. It is filled with merchandize brought by passing foreign ships.

In trade they use gold and tin coins. The gold coin is called *ti-na-erh* (底那兒, dinar), it weighs five candareens. They principally use tin (coins) in trading.¹⁾

The native products are sulphur which comes from a mountain with deep cavities; no vegetation grows on it; the soil is stony and scorched yellow.

The arable soil is restricted but fit for rice, of which they get

1) *Hai gang chao kuny tien lu*, 2, 50 (Su-mén-ta-lu) says in a note: "They cast a coin of pale gold an inch and 2 tenths in diameter and on both sides of which there are designs. It weighs 3 candareens 5 li. One authority says that 48 of them is equal to (重) one tael four candareens in gold. They usually use tin coins".

On the tin coins of the Malay Peninsula and the Maldives, see *Voyage of François Pyrard* (Hakluyt Soc. edit.), I, 232, and the editors exhaustive note on the subject. Pyrard says that in the Maldives the tin coin called *laris* was worth 12000 cauries. See also Sir R. C. Temple on the subject of tin currency in *Indian Antiquary*, Sept. Oct. Nov. 1913.

The Arab writer Wasef mentions "dinars of red gold", Yale, *Marco Polo* (3^d edit.), II, 349. Ibn Batuta speaks of "red tangs" as in use in his time in Sumatra. They were made of pure gold of the 赤金 referred to frequently by our Chinese writers.

two crops yearly. There is neither barley nor wheat. Near the hills they have pepper gardens. The vine grows like the Chinese *tien-ts'ai* (甜菜), the flowers are yellow, the seeds white. The fruit is first green and when mature red. When half ripe it is picked and dried in the sun. Every hundred catties is worth one tael of pure silver.

They have bananas, sugar-cane, mangoustines, and jack-fruit. There is (a fruit) with foul-smelling leaves (臭葉), it is called *tu-erh-yen* (睹爾焉, Malay *durian*). It is like the Chinese *ki-tou-ling* (鷄頭菱 *lit.* "chicken-head water-chestnut"), eight to nine inches long and with pricks (over it). If opened when ripe it is in five or six sections and smells like rotten meat. The pulp (酥) which is white is in fifteen flakes (片) and very sweet. The seeds can be roasted. Sweet ripe oranges (甘橘) are had all the year round; these oranges are not sour, nor do they become sour or soft for a long time; the seeds are white. The *ang-pa* (俺拔, *amra*, mango) is like a shrivelled pear, but slightly longer and with a raw odour. When its skin is removed it can be eaten.

Of vegetables they have the onion, garlic, ginger, mustard, gourds, and water-melons. The gourds can be left for a long time without spoiling. The water-melons have a green rind and red seeds. They are two to three feet long.

They have much cattle and butter (乳酪). All their sheep are black. Their cocks reach seven to eight catties in weight and are of a most delicious flavour when boiled.

They all raise silk worms but do not sort(?) the silk in unreeling it (不省繰絲) and only make figured silks (但成錦).¹⁾

1) *Hai yang chao kung tien lu*, 2, 3⁴ (Su-mén-ta-lai) has 其蠶繰而不綿 which is to me incomprehensible. Referring to the oranges of this country it says: "Oranges are ripe all the year round. The "lion orange" (獅橘) and the "green orange" (綠橘) do not turn sour and can be stored away".

Na-ku-erh (那孤兒).

The king of Na-ku-erh¹⁾ is also called "King of the Tattooed faces" (花面王). The country is situated to the west of Su-mên-ta-la. It is a little country, scarcely more than a big village. All the people tattoo their faces, hence the name of Hua-mien. There are about a thousand odd families. Arable soil is scarce and paddy fields few. They have swine, fowls, and ducks.

Their clothing, customs, usages, and language are the same as in Su-mên-ta-la.

32 (3). *Hsing ch'a shêng lan*. 22. SU-MÊN-TA-LA (蘇門答刺).²⁾

It was anciently called Hsü-wên-ta-na (須文達那). With a favouring wind it can be reached from Man-la-kia (Malacca) in nine days. There is a village on the sea-coast.

The soil is poor and produces but little. The pepper vine grows very long (生延); it is supported on branches of trees; the leaves are like those of the *pien-tou* bean (扁豆), *dolichos lablab*, L). Between the flowers the yellowish white seed hang in bunches like coir-palm seed (櫻櫚子), only the kernels are smaller. The natives reckon a *po-ho* weight (播荷, *bahar*) as equal to three hundred and twenty catties of our standard weight, the price is twenty silver coins weighing six ounces (Chinese weight). There is

1) Na-ku-erh is usually supposed to have been Pedir, see G. P. Rouffaer, *op. sup. cit.*, IV, 287, 290.

2) Groeneveldt, *op. sup. cit.*, 88. *Ming shih*, 32:5, 7^o-8^o, says that Chêng Ho visited Su-mên-ta-la three times. Su-kan-la, it says, was the younger brother of the "Old king" (i. e., the Old sultan). In 1416 Chêng Ho when arrived in Su-mên-ta-la Su-kan-la was ignored by him and, in consequence, attacked the envoy with a considerable force. With the assistance of the tribesmen (loyal to the legitimate rāja) Chêng Ho defeated him with heavy loss, drove him into Lamri, captured him and took him back (to the capital), the legitimate rāja sending a mission to express his thanks.

a gold coin called "gold *ti-na*" (抵納, *dinar*) twenty of which weigh five taels two mace.

The customs of the people are pure and honest. The common people make their living by catching fish with nets; at day-break they go out to sea in dug-out canoes each with a big sail, in the evening they come back.

The men wear a white cotton turban, and a cotton sarong wrapped around the waist. The women do up their hair in a knot, the upper part of their body is bare, around the waist is a piece of coloured stuff.

They have a trailing plant (瓜茄) which they replant every five years when the fruit has become small. There are oranges with a sour-sweet taste and which are constantly in bloom and bearing fruit. The best (of their melon-shaped fruits) has a skin like a lichee and is of the size of a melon. Before (the fruit) is opened it is very bad-smelling like rotten garlic, but when opened there is a kind of pocket with (a pulp in it) like butter, sweet and palatable.

They boil sea-water to make salt, and ferment kajang seeds to make liquor. The goods used in trading are blue and white china-ware, copper, iron, Chao-wa (Java) cotton cloths, coloured silk gauzes.

In the 11th year of Yung-lo (A.D. 1413) a usurper called Sukan-la (蘇幹刺) had possessed himself of the throne; the legitimate ruler of the country sent an envoy to our capital to state the facts and ask for help. T'ai-tsung Huang-ti (i. e., Yung-lo) ordered Chêng Ho and others to go with troops and attack and capture the usurper alive. In the 13th year of Yung-lo (1415) he (the king) came and offered tribute to court, all the natives having made their submission.

33 (1). *Tao i chih liö*. 6. LUNG-YEN HSÜ (龍涎嶼). Palo Rondo (1)

The island is flat, stretching out from north to south. It is a desert waste. Over it hangs a bank of clouds, and the soil is barren, but whenever the sky is clear and the temperature mild and when the wind makes the waves rise, shoals of sea-monsters (龍) come to play and leap near the coast and then they spit their saliva on this island; t'is from this it gets its name (of "Dragon spittle Island").

The colour of this spittle is either black like black incense (烏香)¹⁾ or frequently like pumice-stone. It has a rather rank smell. When it is used in combination with other perfumes its aroma is purer and more far-reaching than that of calambac-wood, sandalwood, musk, gardenia flowers, or gharu-wood; it surpasses all of these.

In former times this place was uninhabited but the natives from other parts (i. e., from the nearby Sumatran coast), using their dug-out canoes, come here to collect the ambergris and sell to other peoples. It is bought with gold, silver, and such things.

1) Cf. *Hai yang chao kung tien lu*, 2, 9^b (Lan shan kuo), and *infra*, 59 (2). Note. See also Hirth and Rockhill, *op. sup. cit.*, 131, 237.

Although the whale (鯨魚) is described under that name as early as the middle of the fourth century (See B. Laufer, *T'oung pao*, XIV, 341, n. 1), it is nearly invariably referred to by writers such as Chou Ch'ü-fel, Chao Ju-kua and subsequent ones as "a dragon" or "sea-monster" *Ta yang tai tsu* (IXth century) 17, 4^b, says whales are called *pai-fu* (奔鯨) and *ch'ü* (鯨); it then proceeds to give a very accurate description of them. It adds that the oil from the head of the *pai-fu* was used for feeding lamps.

This "Ambergris Island" has been thought to be Palo Bras or Lampujang, situated about 20 miles southward of Palo Rondo. It is the westernmost of the islands off Aceh head. It attains in the middle a height of 2,296 feet above high water. *China Sea Pilot*, 1, 55 *Hai yang chao kung tien lu*, 2, 11^a, says it was passed on the voyage to Ceylon between Mao shan (Pulo Weh) and Tai-lan shan (Great Nicobar?). Both Wang Ta-yüan and Fei Hsin say it was a flat island. For these reasons I think it much more probable that it is Palo Rondo or Tepurong, which lies to the north-west of Pulo Weh.

The "black incense" is probably the variety of gharu-wood of this name (also called *wa ch'io ch'iu shiang* (烏角沉香) mentioned by Chao Ju-kua. Hirth and Rockhill, *op. sup. cit.*, 203.

33 (2). *Hsing ch'a shêng lan*. 24. LUNG-YEN HSÜ (龍涎嶼).

It is a lonely island in the midst of the Sea of Nau-wu-li (Iambri) a day's voyage to the west of Su-mên-ta-la. This island floats on the billows on the face of the ocean, the waves breaking and the clouds drifting over it. Every spring shoals of sea monsters come here and in the gambols they eject their spittle. The natives (of Su-mên-ta-la) come to the island in their dug-out canoes, gather it and go back.

It sometimes happens that there is wind and waves, in which case the men get into the water and while holding on to the side of their boat with one hand reach into the water with the other and get it.

When first brought ashore this ambergris is like greasy gum of a blackish yellow colour, with rather a fishy smell.

In the course of time large lumps get formed, as big as a bushel; these are cut out of the bellies of big fishes. They also have a perceptible fishy smell.

When burnt (ambergris) has a pure aroma which is most agreeable. This product on the market of Su-mên-ta-la is worth twelve gold coins of the country for one ounce official weight. One catty is worth a hundred and ninety-two gold coins, equal to nine thousand Chinese copper cash; no small price indeed!

1) Cf. Groeneweldt, *op. sup. cit.*, 100. *Hsi yang chao kung tien tsu*, when referring to the ambergris sold in the markets of Djofar and Mecca calls it *angpa-erh hsiang* (俺八兒香). Arabic 'anbar. Cf. Hirth and Rockhill, *op. sup. cit.*, 123, n. 1.

(To be continued.)

NÉCROLOGIE.

William Woodville ROCKHILL.

Nous avons appris avec autant de surprise que de peine la mort prématurée de notre collaborateur et ami, l'Hon. William Woodville Rockhill. Le 17 novembre dernier, il nous écrivait en nous envoyant le manuscrit du Mémoire sur les *Relations and Trade of China with the Eastern Archipelago and the Coast of the Indian Ocean during the fourteenth Century*, qui parait dans le présent numéro du *T'oung Pao*: « Je quitte cette semaine pour Peking où je serai tout l'hiver revenant ici en Mai ». Il devait remplir dans la capitale de la Chine les fonctions de Conseiller près du Président Yonen Che-k'ai. Le 4 décembre, se sentant indisposé à bord du paquebot qui le conduisait dans l'Extrême Orient, il fut transporté à l'hôpital d'Honolulu où il succomba à une maladie de cœur le 8.

Né en 1854 à Philadelphie, il était le plus jeune fils de Thomas Cadwalader Rockhill et de Dorothy Anna Woodville de Baltimore. Sa mère, devenue veuve, vint à Paris; il fit ses études au Lycée Bonaparte, entra à l'Ecole Spéciale militaire de Saint-Cyr et à sa sortie il servit pendant trois années en Algérie (1873—1876) en qualité de Sous-Lieutenant dans la Légion étrangère. Cependant ses goûts le portaient vers l'étude des langues orientales, et, devenu libre, il suivit les cours de sanscrit et de tibétain de Léon Frey et de P. E. Foucaux où il connut Edouard Speyer. De cette époque datent ses premiers écrits sur le Bouddhisme ¹⁾. Il entra en 1884 (9 avril), dans le Service diplomatique et fut nommé Second Secrétaire de la Légation des Etats Unis à Peking et, dès 1885, il était promu au rang de Premier Secrétaire. Pendant une absence du Ministre américain en Corée, il fut Chargé d'Affaires de décembre 1886 à avril 1887. Il obtint alors un congé et quitta le service diplomatique pour se livrer à des études géographiques et anthropologiques qui lui ont mérité une légitime réputation. Il faisait en 1888—89 et 1891—92 deux voyages d'exploration en Mongolie et au Tibet qui lui valurent la Patron's Medal de la Royal Geographical Society: il a donné en 1891 et en 1894 le récit de ces explorations ²⁾. Il reprenait alors du service actif et fut nommé Commis principal (*Chief Clerk*) au Département

d'Etat le 14 avril 1893 et en cette qualité il fut le représentant du Département d'Etat au Bureau de Contrôle et d'Administration de l'Exposition du Gouvernement à la World's Columbian Exposition à Chicago. Le Secrétaire d'Etat GRESHAM le promut Troisième Assistant Secrétaire le 14 avril 1894 et le Secrétaire OLNEY le désigna pour le poste de Premier Assistant Secrétaire vacant par l'envoi de M. Uhl, comme Ambassadeur en Allemagne. Il se négligeait cependant pas l'Extrême Orient et c'est de cette époque que date son mémoire sur le *Ho t'ou*¹⁾. Il avait entrepris un dictionnaire des termes géographiques usités par les Chinois; il devait être aidé dans cette oeuvre par WATTERS et par des amis de Chine mais il doutait beaucoup, ainsi qu'il me l'écrivait le 14 janvier 1896, d'avoir la possibilité de terminer ce travail. Dès 1897, Rockhill était envoyé comme Ministre plénipotentiaire en Grèce, Roumanie et Serbie, puis il fut appelé à Washington au poste important de Directeur du Bureau International des Républiques Américaines (1899—1905). C'est pendant cette période qu'il publia pour l'Hakluyt Society son excellente édition de PLAN CAMPIN et de Guillaume de RORROUCK²⁾ et pour la Royal Geographical Society le voyage à Lhasa et au Tibet central de SARAT CHANDRA DAS³⁾. En 1900, il était envoyé en Chine comme Commissaire et Plénipotentiaire pour remplacer M. Conger; il m'écrivait le 26 juillet qu'il avait reçu de son Gouvernement l'ordre de se rendre en Chine et qu'il partait le surlendemain. Il fut l'un des signataires du protocole final signé le 7 septembre 1901 à Peking par les représentants étrangers à la suite de l'insurrection des Boxeurs et du siège des Légations dans la capitale de la Chine. Ayant repris son poste au Bureau des Républiques américaines, il publia un recueil des traités des Puissances étrangères avec la Chine et la Corée de 1894 à 1904⁴⁾ et un mémoire sur la population de la Chine⁵⁾. Mais on avait trop apprécié les services de Rockhill à l'étranger pour ne pas l'employer à nouveau; il était nommé successivement Ministre plénipotentiaire en Chine (1905—1909), ambassadeur en Russie (1909—1911), enfin à Constantinople. L'administration du Président Wilson eut pouvoir se priver des services de Rockhill; ce ne fut pas la moindre de ses fautes: Rockhill était en effet un des trop rares agents du service diplomatique américain qui avait suivi une carrière régulière et il avait acquis une expérience des affaires qui manque à la plupart de ses collègues; il possédait aussi une connaissance des langues étrangères, du français en particulier, qui fait également défaut à un grand nombre de diplomates américains. Il quitta Constantinople le 24 novembre 1913 pour se rendre en Chine par la Russie. C'est en arrivant à Peking le 16 janvier 1914 de Sibérie et de Mongolie qu'il eut l'agréable surprise d'apprendre que le 19 décembre 1913, il avait été nommé par l'Académie des Inscriptions et Belles-Lettres Correspondant de l'Institut à la place de Ferdinand de SAUSSURE. C'est de Peking qu'il m'envoya en février la première partie de son mémoire sur les Relations de la Chine avec l'Archipel Oriental. Rentré en Amérique, il avait installé ses collections à Edgehill, Litch-

field, Connecticut. C'est de là qu'il partit en novembre pour son dernier voyage en Chine. A la fin de sa vie, Rockhill avait édité en collaboration avec F. HIRTH la traduction dont ce dernier s'occupait depuis longtemps ¹⁾ du *Tchou Fan Tché* écrit en 1225 par Tchao Jou-koua, inspecteur du Commerce au Fou Kien, traitant du Commerce des Arabes et des Chinois au XII^e et au XIII^e siècles, publié à l'Imprimerie de l'Académie des Sciences de Petrograd ²⁾. Rockhill a fait depuis imprimer le texte du *Tchou Fan Tché* à Tokio ³⁾; il avait également l'intention de faire réimprimer pendant son séjour dans l'Extrême Orient le *Tao Yi Tché lié* 島夷志畧 et le *Sing-tek'a Chéng-lan* 星槎勝覽.

Rockhill a été marié deux fois: d'abord à Miss Caroline Adams, en 1876; en dernier lieu en 1900 à Miss Edith Howell PERKINS; il laisse deux filles. C'était un ami sincère de la France: "I was much relieved to hear from you, m'écrivait-il le 27 septembre dernier. All my thoughts are with you all in France and though I have the most absolute confidence that the final outcome of the war will be the crushing of Prussian Militarism and German bullying nevertheless nous passons de bien mauvais quarts d'heure thinking of our friends in French, British and Russian Armies". Et encore le 17 novembre: "All America is heart and soul with you and our confidence in the outcome of the war is absolute. Nothing can shake my faith in your cause and its success". Nous n'ajouterons rien de plus à ces paroles.

Henri CORDIER.

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- Table of Contents, p. v. — List of Illustrations, p. vi. — Illustrations in the Text, p. vii. — Introductory Notice, p. ix. — Part I. From Peking through Mongolia to Kumbum, p. 1. — Part II. Salar pa-kun: Kusi-té Koko nor. Ts'aidam, p. 73. — Part III. From the Nsiehl gol to Namru dē, near the Tengri nor, p. 181. — Part IV. From Namru to Ch'ando, p. 233. — Part V. Drays. Mar-K'amo But'ang. Li'ang. Chala, p. 319. — Appendixes. Appendix I. Salar Vocabulary, p. 373. — App. II. San-ch'uan T'u-jen Vocabulary, p. 377. — App. III. Plants of Tibet, p. 380. [By W. Botting Hemslay... from the *Journ. of the Linnean Society* — Botany, Vol. XXX, pp. 131-140]. — App. IV. Table of Latitudes, Altitudes, etc., p. 386. — App. V. Mean Monthly Temperature, p. 396. — General Index, p. 397.
- Il y a p. 372 une grande Route Map.
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- 4) The Journey of William of Rubruck to the Eastern Parts of the World, 1253—85, as narrated by himself, with two Accounts of the earlier journey of John of Pian de Carpino. Translated from the Latin, and Edited, with an Introductory Notice, by William Woodville Rockhill, Honorary Corresponding Member of the Royal Geographical Society, London; Printed for the Hakluyt Society. — MDCCC, in-8, pp. LVI—304.
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- 5) Journey to Lhasa and Central Tibet, By Sarat Chandra Das, C. I. E., Of the Bengal Educational Service, ... Edited By the Hon. W. W. Rockhill. London: John Murray, 1902, in-8, pp. x + 3 π a ch. + pp. 285, Cartes et Plans.
- — New Edition ... 1904, in-8, pp. xvi—368.

Traduit en russe par V. Kotvitch, St. Pétersbourg, 1904, pp. XLIV—356, cartes et illustrations.

- 6) Treaties and Conventions with or concerning China and Korea, 1894—1904, together with Various State Papers and Documents affecting Foreign Interests. — Edited by William Woodville Rockhill, Former Assistant Secretary of State of the United States, and Commissioner of the United States to China, 1900—1901. — Washington: Government Printing Office, 1904, in-8, pp. v—555, 5 cartes.
- Ce recueil a été suivi d'un second qui n'a pas été mis dans la circulation.
- 7) An Inquiry into the Population of China by William Woodville Rockhill. — From the Smithsonian Report for 1904, pages 659—676. (N°. 1639) Washington: Government Printing Office, 1905, br. in-8.
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- 8) Chao Ju-kua, a New source of Medieval Geography. By F. Hirth, Ph. D. (*Journ. Roy. Asiatic Soc.*, 1896, Jan., pp. 57—82.)
- Chao Ju-kua's Ethnography: Table of Contents and Extracts regarding Ceylon and India, and some Articles of Trade. By F. Hirth, Ph. D. (*Ibid.*, July, pp. 477—507.)
- Aus der Ethnographie des Tschao Ju-kua. Von Friedrich Hirth (*Sitz. philos.-philol. u. hist. Kl. d. Ak. Wiss. München*, 1898, Heft III, pp. 485—516.)
- 9) Chao Ju-kua: His Work on the Chinese and Arab Trade in the twelfth and thirteenth Centuries, entitled *Chou-fan-shi*, Translated from the Chinese and Annotated by Friedrich Hirth and W. W. Rockhill. — St. Petersburg, Printing Office of the Imperial Academy of Sciences, 1912, gr. in-8, pp. x—289, carte.
- 10) 諸蕃志 一大正三年五月一日日本東京,
1 page, in-8.

Thomas Lowndes BULLOCK.

Nous avons appris avec regret la mort de M. BULLOCK, Professeur de Chinois à l'Université d'Oxford, enlevé par une attaque de pneumonie, le 20 Mars 1915, à sa résidence à Woodlawn, Oxford. M. Bullock, né en 1845, était fils du Rév. J. F. Bullock de Radwinter, Essex; il fit ses études à Oxford, aux Winchester et New Colleges, d'Oxford, et le 24 février 1869, il fut nommé élève interprète en Chine. Voici d'après le *Foreign Office List* les étapes de sa carrière: Faisant fonction de troisième Assistant, 24 juin 1872; troisième Assistant, 27 sept. 1873; Faisant fonction d'interprète à Kiong tcheou en 1877; en charge à Pakhoi du 17 sept. 1877 au 15 avril 1878. Promu Assistant de deuxième classe 1^{er} avril 1878; chargé du consulat de Han k'ou du 10 avril au 23 juillet 1879. Promu Assistant de première classe, 1 avril 1880. Chargé du Consulat de Tchen Kiang du 6 sept. 1879 au 30 sept. 1880; à Wou hou du 4 oct. 1880 au 24 août 1881; à T'ien tsin du 25 oct. 1881 au 5 juillet 1882; faisant fonction d'Assistant Secrétaire chinois à Peking du 15 mars 1886 au 7 mai 1887; faisant fonction de Secrétaire chinois du 8 mai 1887 au 18 mai 1888; Assistant Secrétaire chinois, 1^{er} nov. 1888; vice-consul à Chang Hai, 1 juillet 1889, mais non installé. Chargé du Consulat à T'ien tsin du 19 mai 1888, au 31 mars 1900; consul à Kieou kiang, 1 avril 1891; transféré à Nieou tcheouang, 20 août 1892; faisant fonction de juge Assistant et de consul à Chang Hai du 17 nov. 1894 au 14 février 1896, transféré à Tcha fou, 4 févr. 1896; de nouveau faisant fonction de juge assistant et de consul à Chang Hai du 24 janvier au 9 avril 1897. Prit sa retraite le 1^{er} juillet 1897.

En 1890, il remplaça le Rév. Dr. James LEGGE, dans la chaire de chinois que ce savant avait illustrée à l'Université d'Oxford. M. Bullock a peu écrit; outre quelques articles ¹⁾, il a donné un manuel à l'usage de ses élèves qui a eu deux éditions ²⁾. Il laisse un fils, vice-consul à Fernando Po et une fille.

Henri CORDIER.

1) *Formosan Dialects and their connection with the Malay*. (*China Review*, III, 1874—1875, pp. 38—39.)

2) *Progressive Exercises in the Chinese Written Language* by T. L. Bullock, Professor of Chinese in the University of Oxford. London, Sampson Low, 1903, in-8, pp. vi + 1-f. a. ch. + pp. 256.

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LIVRES NOUVEAUX.

Nous avons reçu le rapport des Postes chinoises pour 1913 (Seconde année de Tchoung-houa Min kouo). Le nombre total des articles expédiés par la poste en 1913 s'élève à 629 millions $\frac{1}{2}$, c'est-à-dire 185 millions $\frac{3}{4}$ de plus qu'en 1910; en 1901, on n'avait expédié que 10 millions $\frac{1}{2}$ d'objets; ce rapport renferme une belle carte.

Le *Bulletin de l'Ecole française d'Extrême-Orient*, T. XIV, N^o. 4, renferme un mémoire *Sur quelques textes anciens de Chinois parlé*, par Henri MASPERO; le N^o. 5 contient: J. PRZYLUCKI, *L'or dans le folk-lore annamite*; A. BONIFACY, *Nouvelles recherches sur les génies thériomorphes au Tonkin*; R. DELOUSTAL, *Des Déterminatifs en Annamite*; PHAM QUÛNH, *Deux oraisons funèbre en annamite*.

Le N^o. 6 du T. XIV du *Bulletin de l'Ecole française d'Extrême-Orient* renferme: *L'Architecture interprétée dans les Monuments du Cambodge* par Henri PARMENTIER.

Notre collaborateur, le Dr. Berthold LAUFER vient de donner à la série anthropologique des publications du Field Museum of Natural History de Chicago le premier volume d'un ouvrage important sur les *Chinese Clay Figures* comprenant les *Prolegomena*

on the *History of Defensive Armor*; il a également inséré dans *The Journal of Race Development*, Oct. 1914, un article: *Some fundamental Ideas of Chinese Culture*.

Nous avons reçu les travaux suivants de l'Institut Oriental de Vladivostok:

Nº 5. (Томъ 43-й, вып. 2-й). P. K. Goldenstein. *Specimens of English*, 2d edition.

Nº 6. (Томъ 43-й, вып. 2-й). В. М. Мендрынъ. Соробунъ. Анализъ японскаго синтетическаго стиля. Часть II-я, кн. 1-я, вып. 2-й.

Nº 7. Томъ 51-й, вып. 2-й). И. И. Шмидтъ. Опытъ Мандаринской Грамматики II, вып. 1-й. Изд. 2-е.

Nº 8. (Томъ 56-й, вып. 1-й). И. И. Шмидтъ. Опытъ Мандаринской Грамматики IV, вып. 1-й. Изд. 2-е.

Nº 9. Последний (2-е прил. кр 13-му г. изд.). Протоколы заседаний Конференции Восточнаго Института за 1911—12 ак. годъ.

Nous avons reçu les ouvrages suivants qui seront l'objet de comptes-rendus dans le *T'oung pao*.

J. de la SERVIERE. — *Histoire de la Mission du Kiang-nan*, 2 vol. in-8.

Col. L. W. SHAKESPEAR. — *History of Upper Assam, Upper Burmah and North-Eastern Frontier*. London, Macmillan, 1914, in-8.

Les Douanes Maritimes chinoises ont fait paraître le Vol. I, *Northern Ports* (Aigun to Kiaochow) de la Part II, *Port Trade Statistics and Reports of Returns of Trade for 1913*. Le rapport de Newchwang est accompagné de trois planches donnant la courbe de la rivière Liao, le Port de Newchwang et le plan de Yingkow.

Une Histoire de l'empereur Gia Long avec plusieurs documents inédits vient d'être publiée en quóc ngu' par Lê-vân-Thom, à Saigon, chez P. H. Schneider.

CHRONIQUE.

ANGLETERRE.

Le **Congrès international des Orientalistes** qui devait se tenir cette année au mois de septembre à Oxford est renvoyé à l'année prochaine à la même époque.

FRANCE.

L'Académie des Inscriptions et Belles-Lettres a accordé le Prix du Baron de Joest (2000 fr.) à M. R. PETRUCCI pour ses travaux sur l'art chinois et le Prix Stanislas Julien (1500 fr.) à M. Maurice COURANT pour son ouvrage: *La Langue chinoise parlée — Grammaire du Kuan Aïou septentrional.*

OPTICAL LENSES.

BY

BERTHOLD LAUFER.

I. BURNING-LENSES IN CHINA AND INDIA.

FIRE-PRODUCTION BY MEANS OF OPTICAL LENSES AMONG THE ANCIENTS. — Crystal lenses, wherever employed in ancient times, served for one main purpose exclusively, — the optical method of fire-making. This method is not found among any primitive tribes of the world, but it is restricted to the highly advanced nations settled around the Mediterranean and to the peoples of India and China. W. Hough, in his interesting study *The Method of Fire-Making*,¹ has justly observed, "Among the several ways of producing 'pure' fire the mirror and lens presented a worthy method to those ancient cultured nations possessing instruments for focussing light. It can scarcely be said that this was a wide-spread and popular plan for producing fire, but probably was a thing known to priests and scientific men of the day, and viewed as a mystery or curiosity."

The centre of gravity of the following inquiry lies in a new research of this interesting subject, as far as China and India are concerned.² China and India, however, were not isolated in the age

¹ *Report of National Museum*, Washington, 1890, p. 403.

² This study owes its origin to a suggestion received from Dr. Frank Brawley and Dr. Emory Hill, two prominent oculists of Chicago, who are about to issue a comprehensive cyclopaedia of ophthalmology, and desire to obtain reliable information on the history of optical lenses in Asia. The second part of this essay will deal with the history of spectacles.

when the utilization of lenses loomed up on their horizons, but partook of the blessings of that great world civilization inspired and diffused by Hellenism. This subject therefore, like all other culture-historical problems, must be visualized within the frame of universal history; and it will hence not be amiss first to pass in review what we know of burning-lenses among the ancients in the western part of the world.

The peoples of classical antiquity were acquainted with two optical instruments for the production of fire, — concave burning-mirrors and convex burning-lenses focussing the sunlight. The question as to whether these are to be attributed to the inventive genius of the Greeks, or were modelled by them on the basis of previous achievements of Mesopotamian civilization, cannot be decided in our present state of knowledge. H. LAYARD¹ (1845) discovered in the palace of the Assyrian King Ashur-naṣir-pal (885—860 B.C.) at Nineveh a rock-crystal lens of plano-convexity, $1\frac{1}{2}$ inches in diameter, with a focus of $4\frac{1}{2}$ inches, cut much like our own burning-glasses, though somewhat crude in its workmanship. It may well have performed the function of a burning-lens, as admitted by modern technologists;² but we should await more evidence before crediting the first invention of burning-lenses to the nations of the Euphrates Valley.

The earliest well-authenticated literary testimony for the use of burning-lenses remains the famous scene in Aristophanes' (c. 450—c. 385 B.C.) comedy *The Clouds* (Νεφέλαι), written in 423 B.C., where the following dialogue ensues between Strepsiades and Socrates (I quote from T. Mitchell's rendering).³

¹ *Discoveries among the Ruins of Nineveh and Babylon*, p. 197.

² NIMMANS and DU BOIS (in KRÄMER, *Der Mensch und die Erde*, Vol. VII, p. 162); and FELDHAUS, *Technik der Vorzeit*, vol. 667.

³ The situation is this: Strepsiades, who has run up a debt of five talents, wants to dodge his obligation by destroying the bill of complaint recorded in wax by operating on it a burning-lens.

- STREPSIADES. I've hit the nail
That does the deed, and as you will confess.
- SOCRATES. Out with it!
- STREPSIADES. Good chance but you have noted
A pretty toy, a trinket in the shops,
Which being rightly held produceth fire
From things combustible: —
- SOCRATES. A burning-glass,
Vulgarly call'd —
- STREPSIADES. You are right; 'tis so.
- SOCRATES. Proceed!
- STREPSIADES. Put the case now your hail-storm comes,
Shows me his writ — I, standing thus, d'ye mark me,
In the sun's stream, measuring my distance, guide
My focus to a point upon his writ,
And off it goes in fume!
- SOCRATES. By the Graces!
'Tis wittingly devil'd.

This translation is somewhat free, and does not bring out the technical points which are of importance for a consideration of the burning-lens. Strepsiades describes it as a beautiful and diaphanous stone (λίσσι διαφανὴς ἀφ' ἧς τὸ πῦρ ἄπτουσι); and what Socrates in the above translation calls a burning-glass is in the Greek *hyalos* (ὕαλος). It is presumed that this word here appears for the first time in Greek literature in the sense of "glass,"¹ and accordingly that Aristophanes speaks of burning-lenses made from glass.² The reasons given in support of this opinion, however, are by no means convincing. The first Greek author with a distinct mention of glass is Herodotus (II, 69), who terms it "molten stone" (λίσσι χυρή) with reference to the ear-rings placed by the Egyptians in the ears of their tame crocodiles. Herodotus (III, 24) likewise is the first to use the word ὕαλος in the description of the coffins of the Ethiopians, where it most evidently has the significance of "rock-crystal" or some other

¹ BEÜMSEN, *Technologie*, Vol. IV, p. 334.

² M. H. MORGAN, *De ignis elicendi modis apud antiquos* (*Harvard Studies in Classical Philology*, Vol. I, 1890, p. 46). This is the most complete study of Greek and Roman methods of fire-making, inclusive of burning-lenses and burning-mirrors.

transparent stone;¹ for "they put the prepared body in a crystal pillar hollowed out for this purpose, crystal being dug up in great abundance in their country."² If *δαλός* has in Herodotus, as shown by the inward evidence of the passage, the meaning of "rock-crystal," I see no reason why the same meaning should not be attributed to it in Aristophanes. Besides the passage cited, there is but one other in which the great writer of comedy makes use of the word: in *The Acharnians* the Greek ambassadors, returning from a mission to the King of Persia, report,

"At our reception we were forced to drink
Strong luscious wine in cups of gold and crystal,"³

as J. H. Frère translates with perfect correctness; where Blümner, Morgan, and others, however, see the first mention of glass vessels in Greek records.⁴ It seems to me more probable that gold and crystal vessels are here spoken of. In order to succeed in making the burning-lenses mentioned in *The Clouds* of glass, Morgan is obliged to have recourse to two theories which are unsupported by evidence. We see plainly from the words of Aristophanes, he observes, that glass was very rare in his time (while two pages ahead glass utensils were then at Athens), since he calls it a precious stone (*gemma*); and, as it is said that this stone is for sale in the shops of the pharmacists (*pharmacopola*), it is proved by this very fact that the matter was regarded as a miracle. This "miracle" will fade away, if we adopt the reasonable and natural interpretation of taking *δαλός* in this passage as "rock-crystal" with the specific sense of "burning-

¹ Some authors take it for Oriental alabaster or aragonite, which is transparent when cut thin.

² Thus also Achilles Tatius calls rock-crystal *δαλός ἀμυρογμένη*.

³ Ἐξ δαλῶν ἱκταυμάτων.

⁴ MOSKOW (l. c. p. 44) says with regard to this passage that glass utensils were at Athens as early as in Aristophanes' times; the passage, in my opinion, would allow only of the inference that they were at the Court of Persia, and dimly known to Aristophanes.

lens of crystal;"¹ and we are thus released from the necessity of making Aristophanes speak of glass as a precious stone. Strepsiades' description fits "crystal" very well indeed. There are other, historical reasons which warrant the belief that the first burning-lenses were cut from crystal, not from glass, as will be shown by a study of this subject from Chinese and Sanskrit sources.

M. H. MORGAN,² it is true, makes the point that rock-crystal became known only at a late period in classical antiquity, shortly before Augustus; and he reveals the Roman poet Helvius Cinna, and Strabo, who mentions the occurrence of crystals in India, as the earliest authorities. This opinion, however, is not correct. Rock-crystal (ἡ χρύσταλλος) is distinctly alluded to by Theophrastus (372—287 B.C.)³ as a translucent stone together with anthrax, omphax, and amethyst, all of which can be turned into signet-rings.

More important than the material of which the burning-lenses of the Greeks were made is the question as to their purpose and mode of use. The scene in Aristophanes' comedy enlightens us in this respect on two points. The effect of a burning-lens was perfectly known. The legal document of which Strepsiades speaks was certainly draughted on a tablet of wax, and related to a debt which he contracted; he intends to foil his creditors by melting the wax by

¹ This interpretation is adopted by LAMBLI and SCOTT in their *Greek-English Lexicon*.

² *Harvard Studies in Classical Philology*, Vol. I, pp. 44, 48—49.

³ *De lapidibus*, V, 80 (opera ed. WIMMER, p. 345, Paris, 1868). This fact is indicated also by KNAKE (*Pyrotechnia*, p. 16) and SCHRAUDER (*Reallexikon*, p. 132). Theophrastus is the first Greek author to speak of rock-crystal. As is well known, the word *κρύσταλλος* occurs in Homer, but has the significance "ice" (derived from *κρύος*, "chill, frost"); an analogous example is presented by Hebrew *qeresh* meaning "ice" and "rock-crystal." The actual utilization of the mineral is certainly much older than the allusions to it in literature. It occurs among the material listed for cylinder-seals in Mesopotamia (HARRICK, *Mesopotamian Archaeology*, p. 287) and among the intaglios of the Minoan, Mycenaean, and archaic Greek periods (D. OSBORN, *Engraved Gems*, pp. 25, 283). On rock-crystal among the ancients, in general compare L. DE LAUNAY, *Minéralogie des anciens*, Vol. I, pp. 22—28; and C. W. KISS, *Antique Gems*, pp. 50—57.

means of a burning-lens, and thus to escape judicial proceedings. Such action was not the order of the day, but the specific witty thought sprung by Strepsiades, at which Socrates laughs. The destruction of writs, therefore, was not the real object of burning-lenses; what they really were intended for we may infer from the allusion that they were kept in the shops of the pharmacists. At this point Morgan went somewhat astray by neglecting the statement of Pliny, quoted below, who assures us that crystal lenses were employed in medical practice for cauterizing the skin; and if the Chinese adopted this very same process, the chances are that also the druggists of Athens in the fifth century B.C. kept burning-lenses in stock, not for any fauciful, miraculous purpose, but with a somewhat realistic end in view, — to sell them as instruments useful in certain surgical operations. Cauterization was practised to a large extent in ancient times; and many forms of the cautery were devised, numerous specimens of which have survived.¹

THEOPHRASTUS, in his treatise on fire, mentions crystal, bronze, and silver, when wrought in a certain manner, as means of igniting fire.²

PLINY (23—79), in his *Natural History*, makes two references to burning-lenses, both of crystal and glass. In his chapter on crystal he says, "I find it stated in medical authors that crystal balls placed opposite to solar rays are the most useful contrivance for cauterizing the human body."³ It will be noticed that the Chinese physicians

¹ J. S. MILNE, *Surgical Instruments in Greek and Roman Times*, pp. 116—120. Milne (p. 8) asserts, "The writings of Pliny contain little information of any kind and are absolutely of no use for our purpose," but Pliny's references to burning-lenses, quoted above, would have found a suitable place in his chapter on cauteries, and assisted in enlightening the text of Hippocrates on p. 120.

² Εἰσέτιται δὲ ἀπὸ τοῦ κρύσταλλου καὶ ἀπὸ τοῦ χαλκοῦ καὶ τοῦ ἀργύρου τρόποι τινὲς ὀργανίσματα (*De igne*, 73; opera ed. Wimmer, p. 343). Others cancel the words ἀπὸ τοῦ κρύσταλλου and interpret the instruments as concave mirrors (Morgan, *l. c.*, p. 52).

³ Invenio apud medicos, quas solis urenda corporum, non aliter utilius uri potari quam crystallina pila adversis opposita solis radiis (xxviii, 10, § 28).

made use of crystal lenses for exactly the same purpose. In the other passage it is remarked, "If glass balls filled with water are exposed to sunlight, they produce such a vigorous heat that they will ignite clothes."¹

LACTANTIUS, the eminent Christian author of the third and fourth centuries, apparently under Pliny's influence, writes that when a glass globe full of water is held in the sun, fire will spring from the light reflected from the water, even in the severest cold.²

ISIDORUS, the learned Bishop of Sevilla (570—636), observes that crystal opposed to solar rays attracts fire to such a degree that it ignites arid fungi or leaves.³ His knowledge is evidently based on Pliny.

Besides the passages in Pliny we find a clear mention of crystal lenses in the *Orphica*, or *Λιγισά* of Orpheus, — a Greek poem wrongly associated with the name of Orpheus, and describing the magical properties believed to be inherent in stones, and revealed by the seer Theodamas to Orpheus. It is not, as formerly assumed, a work coming down from around 500 B.C.,⁴ but it manifestly bears the ear-marks of the late Alexandrian epoch, and is a production of post-Christian times. Crystal opens the series of stones dealt with in this work (Verses 170—184). The deity cannot resist the prayers of him who, bearing in his hand a refulgent and transparent crystal, betakes himself into a temple: his wish will surely be granted. When crystal

¹ Cum addita aqua vitreae pilae sole adverso in tantum candescant, ut rates exurant (XXXVI, 67, § 190).

² Orbem vitreum plenum aquae si tenueris in sole, de lumine quod ab aqua refulget ignis accenditur etiam in durissima frigore (*De ira Dei*, x).

³ Hic (crystallus) oppositus radiis solis adeo explet flammam ut arida fungis vel foliis ignem praebet (*Origenes*, xvi, 13, 1). Fungi used in cauterisation are mentioned by Hippocrates and Paul.

⁴ KRAUSE, *Pyrgoteles*, p. 6. The exact date of this work is not satisfactorily established (compare BERNHARD, *Grundriss d. griech. Lit.*, Vol. II, pt. 1, p. 359; and SWENMD, *Gesch. d. griech. Lit. in der Alexandrinerszeit*, Vol. I, p. 866).

is placed on dry wood-shavings, while the sun-rays strike it, smoke will soon arise, then fire, and at last a bright flame, regarded as sacred fire. No sacrifice is more pleasing to the gods than when offered by means of such fire.

The ancients, accordingly, employed optical lenses in medicine for cauterizing the skin, and in the religious cult for securing sacred fire. The opinion has been expressed also that they served the purpose of magnifying objects, with reference to a passage in *SENECA*, that letters, however minute and indistinct, appear larger and clearer through a glass ball filled with water.¹ *LESSING*² has ingeniously and conclusively demonstrated that there is a wide step from a magnifying-sphere to a magnifying-lens, and that the causes of the enlargement were sought by the ancients, not in the spherical shape of the glass, but in the water with which it was filled. Moreover, the passage of *Seneca* proves nothing beyond a personal experience of that author; and there is, in fact, no ancient tradition regarding specular or magnifying lenses. In Pompeii, Nola, and Mainz, lenses have been excavated, of which *J. MARQUARDT*³ says that they could have been nothing but magnifying-lenses. I am unable to admit the force of this conclusion, and think that these lenses were simply burning-lenses.⁴

BURNING-LENSES IN THE MIDDLE AGES AND AMONG THE ARABS.—The European middle ages are doubtless indebted to the ancients for whatever knowledge of this subject then existed. The mineralogical knowledge of this period is mainly based on the important work of

¹ *Litterae quavis minutae et obscurae per vitream pilam aqua plenam maiores clarescere videntur* (*Questiones naturales*, 1, 6, 5).

² *Briefe, antiquarischen Inhalts*, No. 46.

³ *Privatleben der Römer*, p. 755.

⁴ *M. H. MONROE* (*Harvard Studies in Classical Philology*, Vol. 1, 1890, p. 46) sides with *Marquardt* and *Sacken* against *Lessing*, but on insufficient grounds, and evidently without taking serious notice of *Lessing's* forcible arguments.

the French Bishop of Rennes, MARBODUS (1035—1123), entitled *De lapidibus pretiosis*, and written in Latin hexameters. This poem, largely founded on Pliny, Solinus, and the Orphica, conveyed the classical traditions regarding stones to mediæval Europe, became the direct source of at least four French *Lapidaires*, and successfully maintained its place as the great pedagogical manual on precious stones and as the classical handbook of the schools of pharmacy down to the end of the sixteenth century.¹ In § 41 of his work, Marbodius makes the following observation on crystal lenses:

"But true it is that held against the rays
Of Phoebus it conceives the sudden blaze,
And kindles tinder, which, from fangus dry
Beneath its beam, your skillful hands apply."²

As regards the further development of this matter, suffice it for our purpose to quote from KONRAD VON MEGENBERG'S (1309—78) *Book of Nature*, — "If the sun shines on a round crystal, it ignites tinder in like manner as the beryl does; if it is round like an apple, and if it is exposed to the sun while it is moist, it ignites extinguished coal," — and to refer to the *Opus maius* of ROGER BACON (1240—92),³ who attempted to analyze the operation of a burning-lens. But Bacon's essay is dependent on that of the Arabic physicist Ibn al-Haïtam (or Albazen, 965—1039), who treated the problem much more profoundly and scientifically.⁴

¹ Compare the interesting discussion of L. PANNIER, *Lapidaires français du moyen âge*, pp. 13 et seq. (Paris, 1882).

² Translation of C. W. KISS, *Antiquæ Genuæ*, p. 414. In the earliest French translation (PANNIER, l. c., p. 61) this passage runs thus: "Ceste conceit le feu vermeil, | Et le tient et ral del soleil, | Et de cel feu il tondre esprint | S'il | touchet alque s'orent."

³ The "*Opus maius*" of Roger Bacon, ed. by J. H. BURTON, Vol. I, p. 113 (Oxford, 1897).

⁴ Compare S. VOUL, *Physik Roger Bacon*, p. 80. — In regard to the more recent employment of burning-lenses, it is said that some Old-English tobacco-boxes have a lens in the lid for use on emergency; and naturalists still make occasional use of their pocket-lenses as a substitute for a match (*Horniman Museum and Library, Handbook on Domestic Arts*, I, p. 36).

Arabic knowledge of crystal lenses, again, is founded on that of classical authors, and mainly linked with the name of Dioscorides. In the Arabic version of the *Materia Medica* of this Greek author, compiled by Ibn al-Baitar (1197—1248), we find it stated that rock-crystal struck by hardened iron yields abundant sparks;¹ that a piece of black linen subjected to the rays emitted by this stone, when it is exposed to solar light, will be ignited and consumed; and that it may be employed in this manner in order to obtain fire.² The Arabic *lapidarium* of the ninth century, traditionally but wrongly ascribed to Aristotle, mentions the sparks of crystal in the same manner, but omits the reference to lenses, which, however, occurs in the Hebrew and Latin translations of the same work.³ Qazwini, the Arabic encyclopædist of the thirteenth century (1203—83), observes, "If rock-crystal is placed opposite the sun, and if a black rag or a flake of cotton is brought near it, the latter will catch fire, and objects may be lighted with such fire. There is still another kind of rock-crystal, less pure than the former, but harder; whoever beholds it, takes it for salt. If struck with hardened steel, however, sparks will easily spring from it; hence it serves as strike-a-light for the men of the kings."⁴

¹ The ancient Laplanders made simple use of rock-crystal in the place of flint, and an eye-witness who tried the experiment assures us that rock-crystal struck by the steel yields more sparks than flint (J. SCHREYER, *Lappland*, p. 416, Frankfurt, 1876). Also in the prehistoric ages of northern Europe, quartzites served for the production of fire (compare the interesting study of G. F.-L. SARASOW, *Le feu et son emploi dans le nord de l'Europe aux temps préhistoriques*, in *Annales du XXe Congrès archéol. et hist. de Belgique*, Vol. I, Gand, 1907, pp. 196—226, chiefly, pp. 213 et seq.).

² L. LAULIER, *Traité des simples*, Vol. III, p. 342.

³ RUSKA, *Steinbuch des Aristoteles*, pp. 170, 171. The Latin text runs thus: "Bonitas huius lapidis est quod quando exponitur soli retundatur et radii solares penetrant ipsum erit ignis ab eo" (*ibid.*, p. 207). The word *retundatur* denotes a burning-lens.

⁴ RUSKA, *Steinbuch aus der Kummographie des al-Qazwini*, p. 2. E. WIKERMAN (*Sitzungsberichte der phys.-med. Soc. Erlangen*, Vol. 36, 1904, p. 332) remarks that the Arabic author omitted the word "globe" after "rock-crystal;" and he thinks it notable that Qazwini expressly speaks of rock-crystal.

Likewise in their knowledge of burning-mirrors, the Arabs depend upon the science of the Greeks, as shown in their discussions of this subject by references to Anthemius and Diocles.¹

REPUTATION OF THE THEORIES THAT THE ANCIENT CHINESE WERE ACQUAINTED WITH BURNING-LENSES. — In passing on to China, we face a bewildering jungle of speculations and opinions as to our subject; and only after clearing this jungle will it be possible to discuss the real facts in the case. If Dr. E. HILL² recently stated that "it is said that a Chinese emperor used lenses as early as 2283 B.C. to observe the stars," we here find expression of that popular opinion which credits the Chinese with lenses prior to the Greeks, — an invention which, as will be seen, was never made by the Chinese themselves. A lens could not have been manufactured at that time, as the materials required for it, glass or rock-crystal, were then unknown in China. Moreover, the Chinese in this case lay no claim whatever to a lens. The text from which this alleged lens (I do not know by whom) has been distilled is contained in the oldest historical record of the Chinese, the *Shu king* (II, 5), in which the astronomical activity of the Emperor Shun is spoken of: he is said to have availed himself of an instrument of jade, the description of which is not given in the text, but only by the late commentators.³ Whatever this instrument of hard, untransparent stone may have been, it surely has nothing in common with a lens.

Even professional sinologists, like SCHLEGEL,⁴ and quite recently FORKE,⁵ have asserted that burning-lenses were known to the Chinese

¹ WIEDERMANN, *Sitzungsberichte der phys.-med. Soc. Erlangen*, Vol. 37, 1905, p. 302.

² *Ophthalmic Record*, Vol. 23, 1914, p. 504.

³ See LEUNG, *Chinese Classics*, Vol. III, p. 33; COYNE, *Chou king*, p. 14; CHAVANNE, *Mémoires historiques de So-sa T'ien*, Vol. 1, pp. 58—59; and the writer's *Jade*, pp. 104 *et seq.*

⁴ The views of Schlegel are discussed farther on.

⁵ *Lun-ling*, pt. 2, pp. 496—498.

in pre-Christian times long before they were known to the Greeks. Their conclusions, however, rest on a fallacy due to misunderstandings of the texts. We shall closely examine these, and see how these scholars were prompted to their opinions. It will be demonstrated at the same time that optical lenses of crystal or glass were absolutely unknown in China prior to our era.

Se-ma Chêng of the eighth century A.D. records, in his *Memoirs of the Three Early Sovereigns* (*San huang ki*), the following legend regarding the mythical being Nü-kua or Nü-wa, conceived as a serpent with a human head;¹ "He fought with Chu-yung [the regent of fire] and failed in victory. Flying into a rage, he batted with his head against Mount Pa-chou and brought it down. The pillar of heaven was broken, and the corners of earth were bursting. Nü-kua then fused five-colored stones to repair the firmament, and cut off the feet of a marine tortoise to set up firmly the four extremities of earth. He gathered the ashes of burnt reeds to stop the inundation, and thus rescued the land of Ki. Thereupon the earth was calm, the sky made whole, and the old order of things remained unchanged."² The same tradition is contained in the book going under the name of the alleged philosopher Lie-tse,³ the present recension of which, in all probability, is not earlier than the Han period; likewise in the book of Huai-nan-tse of the second century B.C.,⁴ and in the *Lun-hêng* of Wang Ch'ung.⁵ The latter philosopher points it out as a very ancient tradition believed by most people.

¹ Originally a male sovereign, but from the second century A. D. represented on the bas-reliefs of the Han period as a woman.

² Compare CHAVANDES, *Mémoires historiques de Se-ma Ts'ien*, Vol. I, pp. 11, 12; H. J. ALLEN, *Se-ma Ch'ien's Historical Records* (*Journ. Roy. As. Soc.*, 1894, p. 274); MAYERS, *Chinese Reader's Manual*, p. 162; HIRTH, *General History of China*, p. 11.

³ Ch. 5, *T'ang wên* (compare E. FAUX, *Naturalismus bei den alten Chinesen*, p. 104; L. GILLES, *Taoist Teachings from the Book of Lieh Tse*, p. 85; L. WIGGERS, *Les pères du système taoïste*, p. 131).

⁴ *P'ei wên yün fu*, Ch. 21, p. 217.

⁵ A. FORKE, *Lun-hêng*, pt. 1, p. 250; pt. 2, p. 347.

Every unbiased student will recognize in this legend concerning Nü-kua a genuine myth, in which a cosmological catastrophe is hinted at, the havoc wrought to heaven and earth being repaired with realistic expedients contrived by a primitive and naïve imagination. He whose trend of mind is bent on interpretation may fall back on the phenomenon of the rainbow, which may have impressed a primitive mind as consisting of stone-like patches for mending the sky after the destructive force of a rainstorm; and the brilliant colors of a quartz or agate may have intimated an association of ideas between the hues of a stone and those of the iris. The composite coloration of a stone may have suggested the effect of a smelting-process; at all events, the molten stones of a legend cannot be taken literally; the casting of metal is naïvely transferred to stones. Be this as it may, or whatever our interpretation of the myth may drive at, it is obvious to every sober mind that the elements of a fantastic myth, which is not reducible to an analysis of actual reality, cannot be utilized as the foundation of far-reaching conclusions as to industrial achievements of the Chinese. Some of our sinologues, however, were of a different opinion. The melting of the five-colored stones ascribed to that fabulous being was a rather tempting occasion for the exercise of ingenious speculations. MAYRAS¹ championed the idea that the stone of five colors is coal, the useful properties of which Nü-kua was the first to discover; and T. DE LACOUPERIE,² in a very interesting article, took great pains to demonstrate that the legend has nothing to do with the introduction of glass and the discovery of mineral coal, though by no means himself arriving at any positive result.

Wang Ch'ung,³ in connection with a fire-making apparatus for

¹ *Notes and Queries on China and Japan*, Vol. II, p. 99.

² *T'oung Pao*, Vol. II, 1891, pp. 234-243.

³ *Lun hsiang*, Ch. 16, p. 2 (ed. of *Han Wei ta'ang shu*). FOUKE, *Lun-hsiang*, pt. 2, p. 351.

drawing fire from the sky, mentions the practice, that "on the day *ping-wu* of the fifth month, at noon, they melt fire stones to be cast into an instrument that is capable of obtaining fire." According to Forke,¹ Wang Ch'ung speaks of burning-glasses as, "The material must have been a sort of glass, for otherwise it could not possess the qualities of a burning-glass."² Flint glass, of which optical instruments are now made, consists of five stony and earthy substances, — silica, lead oxide, potash, lime, and clay. The Taoists, in their alchemical researches, may have discovered such a mixture." By interpreting the terms *yang sui* 陽燧 or *fu sui* 夫遂 as "burning-glass," Forke reads of burning-glasses even in the *Chou li*, and is finally carried to this conclusion: "Burning-reflectors were known to the Greeks. Euclid, about 300 B.C., mentions them in his works; and Archimedes is believed to have burned the Roman fleet at Syracuse in 214 B.C. with these reflectors, — probably a myth. Plutarch, in his life of Numa, relates that the Vestals used to light the sacred fire with a burning-speculum. As the *Chou li* dates from

¹ *Ibid.*, p. 498.

² It will be seen below that this conclusion is a fallacy, and is in fact inadmissible; but, granting for a moment its *raison d'être*, the technical point is not so easily settled, as represented by Forke. Wang Ch'ung does not speak of five different stones, but, as demonstrated farther on, indeed speaks of five-colored stones with a distinct allusion to the Nü-ku legend; his term *wu shi* 五石 in this passage being merely a loose expression or abbreviation for *wu shi shi* 五色石. If, then, a multi-colored stone is here in question, and if this stone could be identified with a kind of quartz, Forke's opinion, from a technical point of view, would not be utterly wrong; for it is technically possible to make glass from quartz. This experiment was successfully carried on about a decade ago by C. Hermus in Hanau; the quartz utilized was melted in vessels of pure iridium, which melts at 20000, while the melting-point of quartz is at 17000. After exceeding its melting-temperature, the quartz becomes glassy. The process itself is difficult and complex, and it would be unreasonable to suppose that a technical manipulation which has succeeded only in our own time should have been familiar to the ancient Chinese, who derived from the West whatever knowledge of glass they possessed. If, however, the "five-colored stone," as shown below, was a variety of agate or soapstone (and this opinion is highly probable), nothing remains of Forke's theory.

the eleventh century A.D. (?), it is not unlikely that the Chinese invented the burning-reflector independently, and knew it long before the Greeks."

TH. W. KINGSMILL once remarked,¹ "Myths have been not inaptly described by Max Müller as a disease of language; and to this category we may perhaps relegate the group of modern myths which have grown up in and around our descriptions of China and its arts." I apprehend that the assigning to the ancient Chinese of burning-lenses belongs to this category of modern myths based on mis-interpretation of terms. BIOT,² SCHLEGEL,³ HIRTH,⁴ and CHAVANNES⁵ have clearly shown that the fire-apparatus spoken of in the *Chou li* was a metal mirror, and the Chinese commentators claim no more for it; even Forke cites their opinion, yet mechanically clings to his idea of burning-glasses. Unfortunately, he omits to tell us how the Chinese of the Chou period — when even a word for "glass," and certainly the matter itself, were unknown to them — should have obtained glass. And if the molten stones of Wang Ch'ung, in Forke's opinion, are glass, the molten colored stones of Nü-kua would be entitled to the same consideration; and thus the baffling result would be attained that not only burning-glasses, but also glass in general, are truly Chinese inventions, the latter going back to the dim past of prehistoric ages.

An intimation that the five-colored or variegated stone is a reality, is first given by Li Tao-yüan 麗道元, who died in A.D. 527, in his commentary on the *Shui king* 水經注, a book on the rivers of China:⁶ "On the northern side of the Hen Mountains, along the

¹ *Chinese Recorder*, Vol. VII, 1876, p. 43.

² *Le Tchou-ki*, Vol. II, p. 381.

³ *Uranographie chinoise*, p. 612.

⁴ *Ross Anniversary Volume*, pp. 226—227.

⁵ *Le Tai Chien*, pp. 188—189.

⁶ Compare CHAVANNES, *Toung Pao*, 1905, p. 553.

Ki River, the rocky hills border the river so closely that there is no space for flat beaches; in places where the water is shallow there is plenty of five-colored stones."¹ In another passage he refers to carvings from the stone of the same name, which served for the decoration of a palace of the Emperor Wên of the Wei dynasty in A.D. 220.

The *Yün lin shi p'u* 雲林石譜 by Tu Wan 杜綰 of 1133² likewise makes mention of five-colored stones 五色石 in the Ki River 溪水 near Sung-tse 松滋, in the prefecture of King-nan 荊南府 (now King-chou), in the province of Hu-peï. Among these are some almost transparent, intersected by numerous lines that are straight like the fibres of a brush, and not different from the agate of Chên-chou 眞州.³

Another tradition crops out in the Gazetteer of Lai-chou 萊州志,⁴ according to which the district of Ye 掖縣, forming the prefectural city of Lai-chou on the northern coast of Shan-tung, would produce five-colored stones made into vessels and dishes, and asserted to be identical with the "strange stones" (*kuai shi* 怪石) mentioned in the Tribute of Yü.⁵ This stone of Lai-chou is well

· 俱山北溪水所經皆石山略無土岸。其水淺處多五色石 (*P'ei wên gân fa*, Ch. 100 A, p. 10).

¹ Ch. 2, p. 5* (edition of *Ch'i pu tau ch'ai ts'ung shu*).

² The latter is found in the water or sandy soil of the district Liu-ho 六合, in the prefecture of Kiang-ning, province of Kiang-su. According to Tu Wan's description, this agate is either a pure white or five-colored, the latter variety being characterized by the same attributes as the stone of Sung-tse; it is locally used for the carving of Buddhist images.

³ *P'ei wên gân fa*, Ch. 100 A, p. 16.

⁴ Legge, *Chinese Classics*, Vol. (II), pp. 102, 104; Couvreur, *Chou king*, p. 67; compare *Ts'ien Han shu*, Ch. 28 A, p. 1_b. Legge remarks that the "strange stones" are very perplexing to the commentators, and that Ts'ai gets over the difficulty by supposing they were articles indispensable in the making of certain vessels, and not curiosities, merely to be looked at. The above identification seems to me very plausible; on account of its numerous shades and curious designs, in which the imagination of the Chinese sees grotesque scenery, the emperors of Lai-chou could well have merited the name "strange or supernatural stone."

known to us; it is a variety of agalmatolite or soapstone which is still carved by the Chinese into a hundred odds and ends and worked up into soap, the stone being powdered, and the powder being pressed into forms.¹ Its tinges are manifold and very pleasing, and are therefore capable of artistic effects. The Field Museum owns several albums of the K'ien-lung period, containing pictures (人物) entirely composed of Lai-chou stone of diverse colors, neatly cut out and mounted. The stone being very soft, carving is comparatively easy.²

We accordingly note that in post-Christian times the "five-colored stone" has been identified by the Chinese with a variety of either agate or soapstone. This certainly does not mean at the outset that the stone of the same designation attributed by tradition to times of great antiquity must be identical with one or the other; the ancient name *ren shi*, whatever it may have conveyed in its origin, may simply have been transferred to certain kinds of agate and soapstone in comparatively recent periods. This stricture being made, however, there remains a great deal of probability that the five-colored stone of Nü-kua, after all, was nothing else; there is, at least, no valid reason why it should have been something else.³ To this interpretation, Forke might object that in the aforesaid passage of Wang Ch'ung the question is not of the melting of five-colored stones, as in the tradition of Nü-kua, but of the melting of five

¹ F. V. RICHTHOFEN, *Shantung*, pp. 199—200; A. WILLIAMSON, *Notes on the Productions of Shan-tung* (*J. China Branch R. As. Soc.*, Vol. IV, 1868, p. 69); BECHER, *Notes on the Mineral Resources of Eastern Shan-tung* (*ibid.*, Vol. XXII, 1888, p. 37); A. FAUVEL, *The Province of Shantung* (*China Review*, Vol. III, 1876, p. 376).

² It is described in the *Fu shi p'u*, Ch. II, p. 1¹.

³ T. DE LACOUVERGNE (*T'ung Pao*, Vol. II, p. 242) based his theory of five-colored stones on certain geological conditions of Shan-si Province, where, according to A. Williamson, the strata of some hillsides are clearly marked from base to summit, the many-colored clays presenting all the hues of the rainbow. This would not be so bad if the Chinese accounts really spoke of clay; but they obstinately insist on stones, and stone and clay were strictly differentiated notions also to the ancient Chinese.

single stones, and that consequently the aspect of the problem is thus modified; this objection, however, could not be upheld. The solution of the problem is furnished by Wang Ch'ung himself. In two passages of his work, as already pointed out, he himself narrates the tradition regarding Nü-kua, and his mending of the sky by means of five-colored stones. At the end of the chapter,¹ in which he subjects the story to a lengthy discussion, scorning it with ruthless sarcasm, he suddenly changes his phraseology, and speaks of "the repairing of the sky by means of five kinds of stones, which may have worked like medicinal stones in the healing of disease."² Consequently in the diction of the author the two terms "five-colored stone" (*wu sê shi*) and "five stones" (*wu shi*) are interchangeable variants relating to the same subject-matter. It is therefore evident beyond cavil that the passage concerning the fire-apparatus, where the fusing of five stones is mentioned, likewise implies a literary allusion to the Nü-kua legend, and refers to exactly the same affair. If glass is not involved (nor can it be intended) in the Nü-kua legend, it cannot, accordingly, be sought for either, as alleged by Forke, in this passage of Wang Ch'ung.

The question now remains to be answered, Why does Wang Ch'ung bring stones on the tapis to describe an instrument which, judging from all other Chinese records, was a metal mirror? We know that the ancient Chinese possessed mirrors of stone. Hiern³ has indicated a jade mirror found in A.D. 485 in an ancient tomb near Siang-yang in Hu-pei Province, which the polyhistor Kiang Yen (443–504) stated to date from the time of King Suan (827–782 B.C.). The *Yan liu shi p'u*⁴ mentions two localities where stone material fit for mirrors was quarried, — Mount Wu-ki 浯溪山, in the district

¹ Fouku, *Law-hing*, pt. 1, p. 252.

² This passage is quoted also in *P'ei yü yü fa*, Ch. 100 A, p. 16.

³ *Chinese Metallic Mirrors* (Boas Anniversary Volume, p. 216).

⁴ *Ch.* c, p. 9.

of K'i-yang 祁陽, prefecture of Yung-chou 永州, province of Hu-nan, the stone slabs of which, several feet wide, of deep blue (or green) hue, could reflect objects at a distance of several tens of feet; and the district of Lin-ngan 臨安, in the prefecture of Hang-chou 杭州, province of Chê-kiang. In Su-chou, such stone mirrors, usually carved from Yün-nan marble (*Tu-ti shi* 大理石), are still offered for sale. When we now critically analyze the passage of Wang Ch'ang, we recognize in it a fusion of three different notions, — first, the alleged melting of stones borrowed from the Nü-kua legend; secondly, a recollection of stone mirrors looming up in his mind; and, thirdly, a reminiscence of metal mirrors used in the Chou period (and also subsequently) for securing fire. In a word, his description is a downright literary concoction, pieced together from three different sources; and it is therefore impossible to regard it as an authentic and authoritative source from which any conclusions as to realities may be derived. It can prove absolutely nothing for the elucidation of facts, such as glass, burning-glasses, burning-mirrors, or anything else. Forke's thesis of the alleged priority of the Chinese in the matter of burning-glasses is untenable; and the fact remains, much more solidly founded than assumed by Forke, that the ancients were the first to make use of them.¹

Another weapon, seemingly still more formidable, has been introduced into the discussion by Schlegel. Liu Ngan, commonly known under the name Huai-nan-tao, a member of the imperial family, philosopher and alchemist, who died in 122 a.c., is credited by SCHLEGEL,² with the statement that "it is not absolutely necessary

¹ Forke has not clearly discriminated between burning-lenses and burning-mirrors. I hope to devote a monograph to the latter subject with particular reference to the relation of the Greek burning-mirrors to the Chinese. So much may be said here that Greek priority seems to me to be established along this line also.

² *Uranographie chinoise*, p. 142; and *Nederlandsch-Chineesch Woordenboek*, Vol. I, p. 674.

to employ a bright metal plaque, but that a large crystal ball likewise, held toward the sun, can produce fire." Consequently burning-lenses should have been known to the Chinese in the second century a.c. This would indeed be very nice, were it not that Huai-nan-tse never made such an assertion, wrongly attributed to him by Schlegel. Of all that Schlegel makes him say, he has in fact said only the very first sentence,—"When the mirror is held toward the sun, it will ignite and produce fire,"—while all the rest of it does not emanate from the philosopher, but from his later commentators. Schlegel, indeed, does not quote Huai-nan-tse's original text, but derives the passage from a recent work, *Liu ts'ing ji cha* 留青日札.¹ We need only refer, however, to Huai-nan-tse's actual text,² to recognize at a glance the real state of affairs. Huai-nan-tse knew only of concave metal mirrors for the production of fire, but nothing whatever about crystal or any other lenses. He repeatedly mentions the former,³ but never the latter, nor does any of his contemporaries, for the reason that lenses did not turn up on the horizon of the Chinese before the beginning of the seventh century a.d.⁴

BURNING-LENSES NOT A CHINESE INVENTION. DEFICIENT KNOWLEDGE OF THE SUBJECT ON THE PART OF THE CHINESE.—China has indeed known lenses, and certain optical properties of them; yet they were not invented by the Chinese, but were received and introduced by them from India. This fact will be established by the investigation to follow. The subject is somewhat complex, and has never been clearly set forth by any author, Chinese or foreign. It is indispensable to penetrate into the primal sources, and to sift their

¹ A collection of miscellaneous essays by T'ien Yü-hing, a writer of the Ming period.

² Ch. 3, p. 3 (edition of *Han Wei ts'ang shu*). In the commentary of this edition no reference is made to crystal lenses; their mention is simply an utterance of the author of *Liu ts'ing ji cha*.

³ For instance, Ch. 5, pp. 11, 14; Ch. 6, p. 2^o; Ch. 8, p. 1^o; etc.

⁴ Another argument of Schlegel in favor of early Chinese acquaintance with burning-lenses is dismissed below in the paragraph on ice-lenses.

data with critical eyes, as the recent Chinese writers have been unable to cope with the matter properly; at any rate, none of their statements can be accepted without careful examination. Li Shi-chên, the great Chinese authority on physical science in the sixteenth century, who spent a lifetime on the elaboration of his praiseworthy work *Pên ts'ao kang mu*, has summarized his knowledge of optical lenses (*huo chu* 火珠, "fire-pearls") as follows:¹ "The dictionary *Shuo wên* designates them as 'fire-regulating pearls' (*huo-ts'i-chu* 火齊珠).² The Annals of the Han Dynasty style them *mei-hui* 玫瑰, these characters having the sounds *mei hui* 枚回. The Annals of the Tang Dynasty narrate that 'in the south-eastern ocean there is the Lo-ch'a country 羅刹國 producing fire-regulating pearls, the biggest of these reaching the size of a fowl's egg, and in appearance resembling crystal 水精. They are round and white, and emit light at a distance of several feet. When exposed to the sunlight, and mugwort is placed near, the latter is ignited.' Such lenses are used in the application of mora, which in this manner is painless.³ At present there are such lenses in Champa (Chan-ch'êng 占城), which are styled 'great fire-pearls of the morning dawn' (*chao hia ta huo chu* 朝霞大火珠). The *Su Han shu* 續漢書⁴ says that the country of the Ai-lao barbarians⁵ pro-

¹ *Pên ts'ao kang mu*, Ch. 8, p. 18. This notice is an appendix to his account of rock-crystal.

² This translation and its meaning will be explained in the following section. We have no adequate word to cover exactly the meaning of Chinese *chu* 珠, which means not only a "bead" or "pearl," but also a "gem or precious stone," usually of circular shape. Already d'HERBELLOT (*Bibliothèque orientale*, Vol. IV, p. 598) has explained correctly these various shades of meaning.

³ This sentence is not contained in the Tang Annals, but is Li Shi-chên's own statement. For explanation see below.

⁴ A continuation of the official history of the Han dynasty, written by Sie Ch'êng 謝承 of the third century.

⁵ 哀牢夷. These tribes (their Chinese designation is preserved in the name "Lao") formed the Shan Kingdom, first appearing in history during the first century of our era, in the present territory of Sze-ch'uan and Yün-nan.

duces stones styled *huo-tsing* 火精 ('fire-essence') and *lin-li* 琉璃. In view of this fact, the term *huo-ts'i* 火齊 is an error for *huo-tsing* 火精; the latter is correct in correspondence with the term *shui-tsing* 水精 ('water-essence,' a name for rock-crystal).¹ It will be seen from the following discussion that this notice is very inexact in detail, and altogether highly uncritical, — a defect for

¹ E. DE MÉLIS (*Lapidaires chinois*, p. 60), who has partially translated this text (not from the original, but from a late Japanese cyclopaedia), gives wrong characters and transcriptions of the Chinese terms, — *hsia hoi* instead of *mei hai* (or *mei hai*, or *mei hai*; see farther below), and *ho chai* in lieu of *huo ts'i*. Moreover, the rendering of *huo ts'i* by "lupé" is inadmissible, as neither the Chinese nor the Indians have ever made use of magnifying-lenses, but both peoples were familiar only with lenses for fire-making. — The term *huo-tsing* is not an error for *huo-ts'i*, as assumed by Li Shi-chên, but denotes a red variety of rock-crystal supposed to attract fire, while the white variety of the same stone attracts water and fire at the same time (*H'ia h'iao shi*, Ch. 7, p. 13^b); *huo-tsing* and *huo-ts'i*, in fact, refer to different minerals. In the same manner as among the ancients, the speculations of the Chinese concerning the nature of rock-crystal were divided between the opinions that, on the one hand, it was the essence of water (owing to the outward resemblance to ice) and, on the other hand, the essence of fire (because when struck with steel, it yields sparks, or when used as a lens, produces fire). HIRTH (*China and the Roman Orient*, p. 283) is quite right in deriving the former theory from classical lore. I hope to come back to this subject in detail in a series of studies dealing with Chinese-Hellenistic relations. In opposition to PLIN (NAT. H., 2, § 23), who takes crystal for a kind of ice due to excessive congelation, found only in regions where the winter snow freezes most intensely (*Contraria hinc causa crystallum facit, gelu vehementiore concreto. Non alibi certe reperitur quam ubi maxime hiernae nives riguit, glaciemque esse certum est, unde nomen Graeci dederit*), THOPOPOS STRABO of the first century B. C. expresses the view that crystal originates from purest water hardened into ice, not by cold, however, but through the powerful effect of solar heat (*Crystallum ex aqua purissima in glaciem indurata coalescere sicut, non quidem a frigore, sed divini ignis potentia*). The celebrated French Bishop MABRION (1035—1123) attacked the glacial theory in his poem *De lapideis pretiosis* (§ 41) as follows: "Crystallus glacies multos durata per annos, | Ut placeat doctis, qui sis acquirere, quibuscum, | Germanis antiqui frigus tenet atque colorem. | Pars negat, et multas perhibent in partibus urbis | Crystallum nasci, quod una via frigoris ulla, | Nec glacialis hiems unquam violasse probatur." In China, the same theory was called into doubt by T'ao Chao 曹昭 in his *Ho tsu yao lun* 格古要論, published in 1387: "Although it is said that many years old ice becomes rock-crystal, this is obviously false in view of the fact that green and red crystals occur in Japan" (多年老冰爲水晶然日本國有青水晶紅水晶則水晶非冰也明矣). — an attempt at scientific thinking.

which Li Shi-chên himself is not solely responsible, but which already adheres to his uncritical predecessors. We note, first of all, that he avails himself indiscriminately of three terms, — *huo chu* ("fire-pearl"), *huo-ts'i-chu* ("fire-regulating pearl"), and *wei-hui*. On a previous occasion I ventured to express doubts of the alleged identity of the former two terms;¹ and it will now be demonstrated that they indeed relate to two different mineral substances associated by the early Chinese accounts with two different traditions. In fact, neither the *Shuo wen* nor the Han Annals speak of burning-lenses; Li Shi-chên, however, is quite correct in tracing them to the Lo-ch'a country, but cites the Tang Annals wrongly by assigning to them the term *huo ts'i chu* instead of *huo chu*. This text of the Tang Annals indeed is the first and earliest authentic Chinese account relative to burning-lenses. We note also that Li Shi-chên does not claim any knowledge of them on the part of Wang Ch'ung or Hsui-nan-tse; and, as far as I know, there is no Chinese author who would make such a pretension. The various problems raised by the text of the *Pên ts'ao kang mu* will now be discussed in detail.

HUO-TS'I NOT A BURNING-LENS, BUT MICA. — The earliest definition of the "fire-regulating pearl" (*huo ts'i chu* 火齊珠)² that occurs

¹ *Notes on T'uequois in the East*, p. 28.

² HIRTH and ROCKHILL (*Chien Shouwen*, p. 113) express the opinion that *huo ts'i* appears to be a foreign word, without being able, however, to indicate for which foreign word it might be intended. This supposition is hardly probable, as the phrase *huo ts'i* is good old Chinese, and yields a reasonable sense. It occurs in the ancient Book of Rites (*Li chi*, chap. *Yao-ling*, ed. COUVRÉUR, Vol. I, p. 401; LEUNG's translation, Vol. 1, p. 303): "In the second month of winter, orders were given to the grand superintendent of the preparation of liquors to see that the rice and other glutinous grains be all complete, etc., that the water be fragrant, that the vessels of pottery be good, and that the regulation of the fire (*huo ts'i* 火齊) be right." The term *huo ts'i chu*, accordingly, is very well fitted to signify "a pearl (or gem) used in regulating fire." Indeed, the term *huo-ts'i*, as shown farther on, has been employed for a mineral indigenous in China, and belonging to the mica group, prior to her contact with India; we hear, for instance, of screens (*Sai i chi*, Ch. 3, p. 6; ed. of *Hsu W'ei ts'ang shu*), coaches, and finger-rings of *huo-ts'i*, of native manufacture (*ibid.*, Ch. 8, p. 3). This subject is not pursued here any further, as it will be treated by the writer in a special monograph on mica.

in the Annals of China is embodied in the History of the Liang Dynasty,¹ which enumerates it among the products of Central India, and describes it as follows: "*Huo-ts'i*, in its appearance, is like the mica of China,² with a tinge like that of purple gold, and of intense brilliancy. Pieces split off from it are as thin as the cicada's wings; when joined together again, they are like doubled silk gauze."³ This text, however, is not peculiar to the two Annals, but is

¹ *Liang shu*, Ch. 54, p. 7. The Liang dynasty covers the period from 502 to 556. Its history was compiled by Yao Sze-lien in the first half of the seventh century. The same text is found also in *Nan shi* (Ch. 78, p. 7). The latter work, comprising the history of China from 420 to 589, was elaborated by Li Yen-shou in the seventh century.

² In Chinese *yün-mu* 雲母 (literally, "cloud-mother"). On the basis of a specimen obtained from China, *yün-mu* was identified with mica by E. BIOT (in PASTRICHANIN, *Chine moderne*, Vol. II, p. 558), who also rejected RÉMUNAT's interpretation of this term as "mother-o'-pearl" (this meaning is erroneously given by PALLADIUS, *Sinico-Russian Dictionary*, Vol. II, p. 543). He pointed out seven varieties bearing different names. Under the same name, *yün-mu*, the different varieties of mica have well been described by GEMUS (*Produits de la nature japonaise et chinoise*, Vol. II, pp. 425—433), while F. PUKYER SMITH (*Contributions toward the Materia Medica of China*, p. 210) mistook *yün-mu* for tale, though describing mica under that title. G. SCHLEGEL (*T'oung Pao*, Vol. VI, 1895, p. 49) has contributed to the subject a few notes which are rather incorrect; only his erroneous view that *yün-mu* is a modern term, may here be pointed out. As in many studies of orientalisks we meet the phraseology "mica or tale," it cannot be strongly enough emphasized that mica and tale are fundamentally different minerals; and it is even difficult to see how they could ever be confounded. The word *yün-mu* has been adopted for the designation of mica in the modern scientific mineralogy of China and Japan (see, for instance, *Journ. Geol. Soc. of Tokyo*, Vol. XIX, 1912, p. 413), while tale is *hua shi* 滑石 or *fei-tsoo shi* 肥皂石; the identification of *yün-mu*, therefore, is absolutely certain. The Chinese name arose in consequence of the belief that this mineral forms the basis in the origin of the clouds; that is, strictly speaking, the clouded appearance of the mineral was instrumental in inspiring this popular belief. The Sanskrit designation for mica is *abdra*, a word appearing as early as the fifth century in the Bower Manuscript (A. F. R. HORTON, *The Bower Manuscript*, pp. II, 117). This word means literally "cloud, atmosphere," and thus presents a curious counterpart of the Chinese designation for the same mineral, *yün-mu* ("cloud-mother"). The Chinese alchemists took powdered mica internally in order to insure long life; and when placed in the grave, it was believed to have the effect of preserving the body from decay.

火齊狀如雲母。色如紫金。有光耀。別之則薄如蟬翼。積之則如紗縠之重沓也。

encountered as early as the third century in the *Nan chow-i wu chi* 南州異物志 ("Account of Remarkable Objects in the Southern Provinces"), by Wan Chên 萬震,¹ where it is prefaced by the statement that *huo-ts'i* comes from, or is produced in, the country of India;² and it is this work which has doubtless served as a source to the annalist. The brief description of the mineral is perspicuous enough to enable one to recognize in it mica, — a group of minerals that crystallize in the monoclinic system, and consist essentially of aluminum silicate. The striking characteristic of all species is a highly perfect basal cleavage, by which the crystals may be split into the thinnest films (that is, the cicada wings of the Chinese). It is to this property, and to the highly elastic nature of the lamellæ (by which mica is distinguished from the flexible, foliated, but inelastic mineral, talc), as well as to the fact that it is able to withstand high temperatures and is a bad conductor of electricity, that mica owes its commercial value.³

It was not in India, however, that the Chinese acquainted themselves with mica for the first time. Mica is indigenous in many places of China; and a contemporary of Wan Chên, Chang Pu 張勃, the author of a geographical description of the kingdom of Wu,⁴ mentions the mineral "*huo-ts'i*, which is like *yün-mu*, as occurring

¹ According to *Sui shu* (Ch. 33, p. 10), Wan Chên lived in the time of the Wei dynasty (third century).

² 火齊出天竺國 (*T'ai p'ing yü lan*, Ch. 809, p. 2). The only variant encountered in this text is in the fourth sentence: 節如蟬翼 instead of 別之 etc., as above. The *P'ên ts'ao tang wen* (Ch. 8, p. 18), in the notice of *ts'u-hi*, quotes the same text from the work *I wu chi*, which says that the stone is a product of all countries of southern India.

³ Compare the excellent article "Mica" in G. WATTS' *Dictionary of Economic Products of India*, Vol. V, pp. 509—513 (also as separate reprint), where its uses, geological and geographical distribution, as well as mining and trade in India, are fully discussed.

⁴ *P'u ts'ao tang wen* 吳錄地理志 (see BAERENDEER, *Bol. Sin.*, pt. 1, No. 1043).

in the district Si-küan.¹ It is composed of many layers, and can accordingly be split. It is of yellow color, resembling gold."² This, again, is an unmistakable characterization of mica, and of that variety known to us as golden mica (*or de chat*).³ We note that a kind of mica was known in China under the name *huo-ts'i*, and that the Chinese merely rediscovered this particular species in India; the term *huo-ts'i*, therefore, cannot be the rendering of a Sanskrit word, and such a Sanskrit name as might come into question, indeed, does not exist.

Huo-ts'i are referred by the Chinese also to some countries located in south-eastern Asia. In the year 519, Jayavarman, King of Fu-nan (Cambodja), sent an embassy to China, and offered pearls of that description, saffron (*yü-kin*), storax, and other aromatics.⁴ In 528 and 535 two embassies arrived in China from a country called Tan-tan 丹丹, and *huo-ts'i* pearls or beads were included among the tribute-gifts of the latter mission.⁵ Very little is known about this country, and its identification is not ascertained. At the time of the T'ang dynasty (618—906) it is mentioned again as being situated south-east of the island of Hai-nan, and west of the

¹ As the kingdom of Wu comprised the present territory of Kiang-su, Ché-kiang, and parts of An-hui, this locality must have been within the boundaries of these provinces.

² 西徼縣有火齊如雲母。重沓可開。黃似金。
(*T'ai p'ing yü lan*, Ch. 809, p. 2). The coincidence of the terms used in this text and the *Nau chon i wa shi* is notable.

³ Now termed in Chinese *hsia sing shi* 金星石 ("gold star stone") or *hsin tsing shi* 金精石. See GIEFFÉ, *Produits de la nature japonaise et chinoise*, Vol. II, p. 430; D. HANUWY, *Science Papers*, p. 219; and F. PORTER SMITH, *Contributions toward the Materia Medica of China*, p. 148, who mentions Kiang-nan as a locality where it occurs; this is probably identical with that mentioned in the above Chinese work. The Imperial Geography (*Ta Ts'ing i Ts'ang shi*, Ch. 244, p. 11) mentions the district of Tò-hua (forming the prefectural city of Kiu-kiang, province of Kiang-n) as producing mica (*yün mu*).

⁴ *Kiang shu*, Ch. 54, p. 5¹; or *Nau shi*, Ch. 78, p. 4 (compare PELLIOT, *Bull. de l'Ecole française*, Vol. III, p. 270).

⁵ *Kiang shu*, *ibid.*

country To-lo-mo 多羅磨, which is otherwise unknown to us.³ G. SCHLEGEL,⁴ in a discussion of this passage of the Liang history, without adducing any evidence, rendered the term *huo-ts'i* by "Labrador feldspat," which is an arbitrary and unwarranted opinion.⁵ Both Fu-nan and Tan-tan, this much is certain, were countries in the sphere of influence of Indian civilization; and in the same manner as Fu-nan received diamonds in consequence of its lively intercourse with India,⁶ so also its *huo-ts'i* gems were undoubtedly derived from the same source.

Aside from India, Fu-nan, and Tan-tan, *huo-ts'i* are listed in the Chinese Annals also among the products of Persia; that is, Persia in the epoch of the Sassanian dynasty.⁷ Since Persia was then in close relations with India, it is highly probable that the *huo-ts'i* of Persia, like many other products attributed to the country by the Chinese,⁸ also hailed from India. We shall revert once again to Persia when discussing the term *mei-hui*.

There is not a single ancient Chinese account that speaks of the use of burning-lenses in regard to *huo-ts'i*.⁹ The only purpose to

³ *T'ang shu*, Ch. 222 a, p. 4 (compare PELLIOU, *Bull. de l'Ecole française*, Vol. IV, p. 284).

⁴ *Toung Pao*, Vol. X, 1899, p. 460.

⁵ Schlegel's view that the country Tan-tan should be sought far on the Malay Peninsula, and be identified with the mysterious Dondin, placed by Odoric of Pordenone at the fourteenth century between Ceylon and China, has been refuted by PELLIOU (*l. c.*).

⁶ India traded diamonds with Ts'ien, Fu-nan, and Kiao-chi (*T'ang shu*, Ch. 221 a, p. 10^b).

⁷ *Pei shi*, Ch. 97, p. 7^a; *Wei shu*, Ch. 102, p. 5^a; *Sui shu*, Ch. 83, p. 7^b.

⁸ HIRTH and ROCKNITZ, *China-Java*, p. 16.

⁹ The conclusion of some Chinese authors that *huo-ts'i* are burning-lenses may have been prompted partially by the report of a mica mirror (*huo ts'i k'ing*) contained in the *Shi i shi* (Ch. 3, p. 6^a; ed. of *Han Wei ts'ang shu*). This mirror, three feet in width, is alleged to have been sent as a gift by a country styled K'ü-sü 渠胥, at the time of the Emperor Liang of the Chou dynasty (371—545 a.c.). In a dark room, objects were visible in it as in the daytime, and when words were spoken in the direction of the mirror, an echo sounded from it as answer. HIRTH (*Bees Anniversary Volume*, p. 228) sees in this mirror a practical demonstration of the theory of sound-reflection, coupled

which the latter was turned was for making lanterns transparent and durable. This confirms the fact that *huo-ts'i* is mica, for the earliest application of it in India and China was in windows and lanterns.¹ Muscovite, a variety of mica, is still employed for lamp-chimneys, as fire-screens in the peep-holes of furnaces, and as screens in the laboratory, for observing the processes in a highly heated furnace without suffering from the intense heat. It is thus clear why the Chinese called this mineral *huo-ts'i* "fire-regulating;" and it is also clear that, since mica cannot by any means be made into a burning-lens, the alleged identity of *huo-ts'i* with the burning-lens styled *huo-chu* is absolutely wrong. Only the fact that the word "fire" forms the first element in the names of both minerals suggested this hypothesis to the Chinese philologists. But there is a fundamental difference in characterizing the two by the attribute "fire." In mica it refers to that phenomenon known to us as asterism, — the exhibition of a starlike reflection, which occurs also in sapphire, chiefly displayed by some phlogopites when a candle-flame is viewed through a sheet of the mineral, — and the frequent use of the substance for windows, as remarked by Watt, may have facilitated the observation of this peculiar property. The fact that the Chinese were perfectly aware of it has already been demonstrated by the reference to the mica windows in the palaces of Lo-yang; and there is another similar report in the Records of Kuang-tung Province,² according to which the mica of

with that of light-reflection. The text itself, like the book from which it is taken, is apocryphal. The assigning of it to the Emperor Láng is a gross anachronism, and nothing is known about the country K'ü-sü.

¹ Windows of mica are mentioned in a *Description of the Palaces of Lo-yang* (Lo-yang kang t'ien ki 洛陽宮殿記; 2'ai p'ing yü lau, Ch. 808). They spread a dazzling brilliancy in the sunlight. Also fans were made from the same substance by Shi Hu 石虎 (mentioned in his work *Yu chung ki* 鄴中記, see BERTSCHNIDER, *Bot. Sin.*, pt. 1, No. 1079).

² *Kuang chun ki* 廣州記, by P'ei Yüan 裴淵, who lived under the Tsin dynasty (265—419); see BERTSCHNIDER, *Bot. Sin.*, pt. 1, No. 377.

the district of Tsêng-ch'êng, when struck by the sunlight, emits a brilliant light.¹

LIU-LI AND LIANG-KAN NOT BURNING-LENSES. — We find also the opinion heralded by Li Shi-chên that the stone *liu-li* 琉璃 (Sanskrit *vaidūrya*) is identical with the *huo-ts'i* gem. This notion goes back to Ch'ên Ts'ang-k'i 陳藏器, who lived during the first part of the eighth century at San-yüan (in the prefecture of Singan, Shen-si Province), and who is the author of the *Pên ts'ao shi i* 本草拾遺. This work seems to be lost; but extracts of it are preserved in the later works on natural history, notably in the *Ch'ing lei pên ts'ao* 證類本草 of the year 1108, and in the *Pên ts'ao kang mu*. In both works he is quoted as saying that, according to the dictionary *Tai yün* 集韻, *liu-li* is the same as the gem *huo-ts'i*. This work, of course, is not the *Tai yün* which was begun in 1034 and completed in 1039,² but the *Tai yün* or *Yün tai* by Lū Tsing 呂靜 of the Tsin dynasty (265—419).³ We are here confronted with a purely philological opinion of a lexicographer, which is hardly founded on a personal examination of the objects concerned,⁴ nor is it very likely that Sanskrit *vaidūrya* ever referred to a variety of mica.

增城縣有雲母向日照之光耀 (*T'ai p'ing yü lan*, Ch. 808). — The introduction of plate-glass has now supplanted the use of mica in Eastern Asia; but some curious survivals of it still occur in Tibet. The Tibetans manufacture an abundance of charm-boxes (*gau*), some of large dimensions in the form of shrines; a window is cut out in the metal surface to render the image in the interior visible. This window is now usually covered with European glass, but also with a transparent sheet of mica. Ornaments of mica are still employed by the women in the territory of the Kaku-nür for the decoration of their fantastic head-dresses.

¹ WATTELL, *Essays on the Chinese Language*, p. 60.

² See the Catalogue of Sui Literature (*Sui shu*, Ch. 32, p. 22; and WATTELL, *l. c.*, p. 40). *T'ai p'ing yü lan* (Ch. 808, p. 2) quotes the same definition from the dictionary *Yün tai* 韻雜, which presumably is a misprint for *Yün tai* 韻集.

³ This discussion bears out the reasons which induced F. POIRER SMITH (*Contributions toward the Materia Medica of China*, p. 126) to identify *huo-ts'i* with lapis lazuli, as he took *liu-li* for the latter and encountered the equation of *huo-ts'i* with *liu-li*.

As the term *liu-li* refers to certain varieties of rock-crystal¹ and to certain vitreous products, it would be possible in theory that burning-lenses were made from this substance; but no such instance is on record. There is, however, an isolated case in which a specular lens of this material is in question.

In the year 499, the Buddhist monk Hwei Shên 慧深 returned to China under the pretence that he had visited a marvellous island in the farthest east, called Fu-sang 扶桑, and made a glowing report of its wonders. It is well known that a number of European and American scholars sought this alleged country Fu-sang in Mexico or somewhere else in America, and pretended that this continent had been discovered by the Chinese nine centuries before Columbus. Others, of a more sober trend of mind, localized Fu-sang on Sachalin or on islands near Japan. But even this moderate attitude rests on a cardinal error, for Fu-sang, as described by Hwei Shên, is not a real country at all, but a product of imagination, a geographical myth, composed of heterogeneous elements, as will be shown by me elsewhere. In this connection Fu-sang is of interest to us, as the earliest Chinese mention of a specular lens is associated with it. In the beginning of the sixth century envoys of Fu-sang are alleged to have appeared in China, "offering as tribute a precious stone for the observation of the sun (*kuan ji yā* 觀日玉), of the size of a mirror, measuring over a foot in circumference, as transparent as rock-crystal (*liu-li*): looking through it in bright sunlight, the palace-buildings could be very clearly distinguished."² The event

¹ It would be preferable to use the general term "quartz," as it is impossible to determine in each and every case what kind of crystal is intended.

² 扶桑國使使貢觀日玉。大如鏡。方圓尺餘。明澈如琉璃。映日以觀日 (variant: 見) 中宮殿皎然分明 (*T'ai p'ing yü lan*, Ch. 803, p. 10). This text is derived from the book *Liang w' lung tai ki*, 梁四公子記, "Memoirs of the Four Lords of the Liang Dynasty

of the embassy here alluded to is apocryphal, for it is not on record in the official Annals of the Liang Dynasty; the country Fu-sang itself is an imaginary construction. Moreover, the work which contains this story, and which consists of conversations held by the four Lords¹ with the Emperor Wu of the Liang dynasty (502—549) has a decided tendency toward the wondrous, and teems with fables derived from the West. Notwithstanding, all this does not detract from the value of this first account of a specular lens, through which objects could plainly be beheld. I think that SCHLEGEL² was not so very wrong in lending expression to the opinion that this "precious stone for the observation of the sun" was a rock-crystal.

In his book (happily now forgotten) *Fusang or the Discovery of America by Chinese Buddhist Priests in the Fifth Century* (1875) CH. G. LELAND has utilized also this notice in support of his Fusang-American hypothesis, and has tried to establish an analogy between the observation glass of the Chinese account and the burning-mirrors of metal which the ancient Peruvians are alleged to have employed for kindling their sacred fire. BRETSCHNEIDER³ who banished the nightmare of Leland with as much critical acumen and as a solid fund of information refuted this particular point only by discounting the credibility of the Chinese source in question.⁴

(502—556),¹¹ written by Chang Yün 張說 (687—730), statesman, poet, and painter (GILES, *Biographical Dictionary*, p. 51).

¹ They were Hsuei-ch'uang 蜀圖, Wen-kie 魏杰, Wei-t'uan 魏端, and Chang-ki 仇啓.

² *T'oung Pao*, Vol. III, 1892, p. 139.

³ *Über das Land Fu Sang* (Mitt. d. Ges. Ostasiens, Vol. II, No. 11, 1876, pp. 1—11).

⁴ He erroneously styled the work "the memoirs of a certain Liang em kung." In his *Botanicon Sinicum* (pt. I, p. 169) the title is correctly explained. In an old catalogue of books from the twelfth century, Bretschneider comments, this work is described as totally unreliable, as the author narrates mostly wondrous and incredible stories. This is merely a conventional Chinese mode of literary criticism. The wondrous stories of this book are of incalculable historical value to us, as many of them are exact reproductions of western legends.

This point of view is unnecessary. We certainly do not have to believe in the embassy from Fu-sang, which is not confirmed by the *Annals*; the instrument, however, described in the report cannot be a personal invention of Chang Yüe, the author of that work, but surely is a reality. It doubtless was a lens which permitted to see the distant palace-buildings with greater distinction; yet it was not a burning-lens, and the comparison drawn by Leland is far from the point. Moreover, the alleged burning-mirrors of the Peruvians existed merely in the imagination of Garcilaso de la Vega, whose fantasy has already been exploded by E. B. TYLOR.¹

It is possible to trace with some degree of probability the real origin of that lens fancifully associated with the mythical land Fu-sang. The work *Liang so kung tee ki* that contains this account offers the following interesting text: "A large junk of Fu-nan which had hailed from western India arrived (in China) and offered for sale a mirror of a peculiar variety of rock-crystal (碧玻璃鏡)."²

¹ *Researches into the Early History of Mankind*, pp. 250—253 (New York, 1878).

² G. PACHIER (*L'inscription de Si-agan-fou*, p. 31, Paris, 1858), who first called attention to this text, was quite correct in explaining the term p'o-li as "rock-crystal." PAILLOT (*Bull. de l'Ecole française*, Vol. III, p. 283) accepts p'o-li in this passage in the sense, commonly adopted, of "glass," while admitting that it etymologically corresponds to Sanskrit *sphatika*. The latter, however, means "rock-crystal," and in my opinion the Chinese word p'o-li, derived from it, in the greater number of ancient texts, has the same significance. Evidence based on other texts will be produced farther below; here we discuss only the text under consideration. For two weighty reasons it is impossible to regard the mirror mentioned in the *Liang so kung tee ki* as a glass mirror. First,—the story of the merchants, which is an echo of the Western legend of the Diamond Valley, reveals the fact that the question is of a precious stone, not of glass; among the numerous versions of this legend, there is not one that speaks of glass, but all of them are unanimous in mentioning hyacinths, diamonds, or precious stones in general. A plain glass mirror, most assuredly, would not have been priced so highly, nor have caused such a sensation, nor have been linked with a legend of that character. Second,—glass mirrors were not yet invented at that time in the West, and for this reason the conclusion that they should have been known in India and Fu-nan during the sixth century seems to me very hazardous. True it is that HUART (*Chinese Metallic Mirrors*, *Boas Ann. Vol.*, p. 219), who also regards this mirror from Fu-nan as being of "green glass" (see, however, also the following footnote), and who wonders at the incredible price solicited for it, supports his theory by

one foot and four inches across its surface, and forty catties in weight. It was pure white and transparent on the surface and in the interior, and displayed many-colored things on its obverse. When held against the light and examined, its substance was not discernible.¹ On in-

the statement that the ancients were acquainted with glass mirrors. This argument, however, is not valid; we have to study only the famous and ingenious treatise of J. BERGMANN (*Beiträge zur Geschichte der Erfindungen*, Vol. III, particularly pp. 393—335; an English translation of this monumental work was published in 1814 by W. JONNENON) to become thoroughly convinced of the baseness of Hirth's claim; and the result of Bergmann, who wrote in 1792, is upheld both by classical philology (MORAN, *Harvard Studies in Classical Philology*, Vol. I, 1890, pp. 50—51) and by the modern history of technology (FELDHÄUS, *Technik der Vorzeit*, col. 1044). The plain fact remains that real glass mirrors in our sense did not come up in Europe before the latter part of the thirteenth century, and that they did not exist in classical antiquity. — I do not deny, of course, that in a later period the term *p'ò-lí* assumed the meaning of "glass;" the exact date remains to be ascertained.

¹ HIRTH and ROCKHILL (*Chou Ju-tan*, p. 228), who have translated merely the beginning of this text on the basis of an incomplete quotation in *T'a shu tai ch'üey*, render this sentence, "Objects of all kinds placed before them [the mirrors] are reflected to the sight without one's seeing the mirror itself." Even if this translation were admissible, which I venture to doubt, I am at a loss to understand what it should mean; it even seems to convey the meaning of something that is impossible. The sentence 置五色物於其前 (see the complete text of the passage on p. 202, note 3) cannot be linked with the following 向 etc., which is a new sentence expressing a new idea. This may be inferred also from the text, as quoted in *Pao ts'ao kang mu*, in which the sentence beginning with 置 etc. is omitted, while the sentence beginning with 向 etc. is completely reproduced. Objects are certainly not placed in front of a mirror to be seen, but man wants to behold himself or objects in a mirror. It is obvious that the objects here mentioned were natural designs formed by zones of various colors in the stone. As they were not acquainted with the complete text, as handed down in *T'ai p'ing yü lan*, Hirth and Rockhill understand that the junka of Fu-nan habitually sell such mirrors to the Chinese. Our story renders it clear that only an isolated instance comes into question, and that this particular, unusual mirror could not even be disposed of in China. The *Liang yü kang tsu shi* is not a work on commercial geography summarizing general data, but is a story-book narrating specific events. We have in the present case not a description, but a narrative. For the rest, however, the notes contributed by Hirth and Rockhill on the history of glass are very interesting and valuable, though many problems connected with this difficult subject still remain unsolved. Hirth's opinion, that *pi-p'ò-lí* should be regarded as a word-formation prompted by analogy with *pi-t'ün-lí*, is very plausible. Our text indeed renders this conception almost necessary, as the word *pi* cannot be taken here in the sense of "green," the substance of the mirror being described as white and transparent.

quiry for the price, it was given at a million strings of copper coins. The Emperor ordered the officials to raise this sum, but the treasury did not hold enough. Those traders said, 'This mirror is due to the action of the Devarāja of the Rūpadhātu.¹ On felicitous and joyful occasions, he causes the trees of the gods² to pour down a shower of precious stones, and the mountains receive them. The mountains conceal and seize the stones, so that they are difficult to obtain. The flesh of big beasts is cast into the mountains; and when the flesh in these hiding-places becomes so putrefied that it phosphoresces, it resembles a precious stone. Birds carry it off in their beaks, and this is the jewel from which this mirror is made.' Nobody in the empire understood this and dared pay that price."³

The story connected in this report with the crystal mirror is a somewhat abrupt and incomplete version of the well-known legend of the Diamond Valley, the oldest hitherto accessible Western version

· **色界天王** ("the Celestial King of the Region of Forms"). The Rūpadhātu is the second of the three Brahmanic worlds. The detailed discussion of this subject on the part of O. FRANK (Chinesische Tempelschrift, pp. 47—50) is especially worth reading. The Devarāja here in question is Kubera or Vaiṣṇava, God of Wealth, guarding the northern side of the world-mountain Sumera and commanding the host of the aerial demons, the Yaksha.

· **天樹**. This term corresponds to Sanskrit *devatara*, a designation for the five miraculous trees to be found in Indra's Heaven (compare HOPKINS, *Journ. Am. Or. Soc.*, Vol. xxx, 1910, pp. 353, 353).

· **梁四公記**. 扶南大舶從西天竺國來賣碧玻璃鏡面廣一尺四寸重四十斤。內外皎潔置五色物於其前。向明視之不見其質。問其價豹錢百萬貫文。帝令有司算之以府庫當之不足。其商人言。此色界天王。有福樂事天樹大雨雨衆寶山納之。山藏取之難得。以大獸肉投之。藏中肉爛類寶一。鳥銜出而此寶焉。舉國不識無敢酬其價者 (*T'ai p'ing yü lan*, Ch. 808, p. 6).—The narrative is obscure in omitting to state that the jewels adhere to the flesh which is devoured by the birds.

of which is contained in the writings of EPIPHANIUS, Bishop of Constantia in Cyprus (circa 315—403).¹ Again, it is the author of that curious work, *Liang se kung tse ki*, who has preserved to us the earliest Chinese form of this legend which strikingly agrees with the story of Epiphanius. This text is worded as follows: "In the period T'ien-kien (502—520) of the Liang dynasty, Prince Kio of Shu (Sze-ch'uan) paid a visit to the Emperor Wu,² and, in the course of conversations which he held with the Emperor's scholars on distant lands, told this story: 'In the west, arriving at the Mediterranean,³ there is in the sea an island of two hundred square miles (*li*). On this island is a large forest abounding in trees with precious stones, and inhabited by over ten thousand families. These men show great ability in cleverly working gems,⁴ which are named for the country Fu-lin 拂林.⁵ In a northwesterly direction from

¹ *Epiphani opera*, ed. OXENBERG, Vol. IV, p. 190 (Leipzig, 1862). On the basis of these new Chinese sources, I have treated the history of this legend in detail in a study on the diamond (unpublished manuscript of the writer), and therefore do not pursue the subject further on this occasion.

² He was the first emperor of the Liang dynasty and lived from 464 to 549 (Giles, *Biographical Dictionary*, p. 385).

³ *55 hai* 西海 (the "Western Sea"). Compare HIRTH, *Journ. Am. Or. Soc.*, Vol. XXXIII, 1913, p. 195.

⁴ This must be referred to the cutting and engraving of antique intaglios (gems in the sense of Latin *gemma*).

⁵ The same mode of writing (林 instead of the later 赫) as that encountered by CHAVANNE (T'oung Pao, 1904, p. 39) in a text of 807, extracted from the *Ts'ao fu yüan shao*. The same way of writing occurs also in *Tu yang tse tsu* and in a poem of the T'ang Emperor T'ai-tsung (*P'ei wen yüan fu*, Ch. 27, p. 23). As our text speaks of a forest of jewelled trees, a popular interpretation of the name Fu-lin apparently is intended here, "forest" (林) of the jewels being read into Fu-lin; as if it were "forest of Fu." We are here confronted with the earliest allusion in Chinese records to the country Fu-lin, antedating our previous knowledge of it by a century, HIRTH having traced the first appearance of the name to the first half of the seventh century. The reference to the period T'ien-kien (502—520), and the mention of the Liang Emperor Wu, are exact chronological indications which now carry Chinese acquaintance with Fu-lin to the beginning of the sixth century. This result perfectly harmonizes with the view expressed by PELLER (*Journal asiatique*, Mars-Avril, 1914, p. 498), that the name Fu-lin appears with certainty about 550, and that it is possibly still older.

the island is a ravine hollowed out like a bowl, more than a thousand feet deep. They throw flesh into this valley. Birds take it up in their beaks, whereupon they drop the precious stones. The biggest of these have a weight of five catties.' There is a saying that this is the treasury of the Devarāja of the Rūpadhātu."¹ This is not the occasion to discuss the history and development of this interesting legend in connection with its Arabic and subsequent Chinese parallels; this will be done by me in another place. Suffice it to say for the present that the Chinese version is an exact parallel to that of Epiphanius, that it antedates all Arabic versions, that it represents a purer form than the earliest Arabic text in the *lapidarium* of Pseudo-Aristotle, and that it was transmitted to China directly from Fu-lin. I have here fallen back on these two texts of the *Liang se kung tai ki* to introduce the reader to the mental horizon of its author, Chang Yüe, and thus to secure a basis for judging the *raison d'être* of the specular lens ascribed by him to an embassy from Fu-sang. It was a plausible *a priori* supposition that this instrument must have been one of Western manufacture; and being now familiar with the outfits and tools of the workshop of Chang Yüe, who absorbed traditions of Fu-nan, India, and Fu-lin, we may well infer that the alleged Fu-sang lens was really a

梁四公記。梁天監中有蜀杰公謁武帝嘗與諸儒語及方域。西至西海海中有島方二百里。島上有大林。林皆寶樹中有萬餘家。其人皆巧能造寶器所謂拂林國也。島西北有坑盤坳深千餘尺。以肉投之。鳥銜寶出大者重五斤。彼云是色界天王之寶藏 (T'u shu tai sh'ang,

section on national economy, 321, 寶貨, *tsung pu ki shi*, p. 5). — The last sentence, of course, is not an element inherent in the story, as it came from Fu-lin, but is an interpolation of the Chinese author Chang Yüe, taken from the narrative which the traders of Fu-nan had overheard in India.

product of Syria (Fu-lin) and reached China possibly by way of India and Cambodja (Fu-nan), in the same manner as the costly mirror of rock-crystal.¹

A product termed *lang-kan* 琅玕 is identified with *huo-t'ei* by Su Kung 蘇恭 of the T'ang period,² who, at the same time defines the former as a kind of *lin-li*. K'ou Tsung-shi 寇宗奭, in his *Pên ts'ao yen i* 本草衍義 of 1116, calls him to task for this wrong statement by observing that *lin-li* is a substance evolved by fire, while *lang-kan* is not, so that the two could not represent identical species. Su Kung's identification has indeed not been adopted by any subsequent Chinese scholar.³

¹ In the writer's proposed Chinese-Hellenistic studies will be found several interesting examples of Hellenistic folk-lore traditions looming up in Fu-nan and thence transmitted to China.

² *Chung lei pên ts'ao*, Ch. 3, fol. 36. Also in a commentary to the dictionary *Ki tsai pien* 急就篇 (*P'ei wen yüan fu*, Ch. 7 A, p. 106 b).

³ *Lang-kan*, in times of antiquity, appears as a mineral, mentioned already in the earliest Chinese document, the tribute of Yü, in the *Sün Shing* (Liang, *Chinese Classics*, Vol. III, p. 127), as a product of the province of Yang-chou; its exact nature cannot be determined, the commentators saying no more than that it was a stone used for beads; Legge's explanation that possibly it was laalite or lapis lazuli, is purely conjectural. The *Sün wen* defines *lang-kan* as a stone resembling jade; and the *Edé ya* localizes it in the K'an-lun. The *P'ie lu* 別錄 assigns the stone to P'ing-tse 平澤 in Shu 蜀 (Ssu-ch'uan). *Wei li*, *Han Han shu*, *Liang shu*, and *Wei shu* (Hirth, *China and the Roman Orient*, pp. 41, 47, 50, 73) mention *lang-kan* among the products of Ta Ts'iu; no explanation of its significance with reference to these passages is on record. We find *lang-kan* also in Kucha (*Liang shu*, Ch. 34, p. 14), in central India (*ibid.*, p. 7 b), and generally in India (*T'ang shu*, Ch. 221 A, p. 10 b). From the T'ang period onward the Chinese naturalists or pharmacists, beginning with Ch'ên Ts'ang-k'ü, describe *lang-kan* as a kind of coral, growing like a tree with root and branches on the bottom of the sea, fished by means of nets, and being reddish, when coming out of the water, but subsequently turning darker. The *Yün lin shi p'ao* (Ch. 6, p. 9 b) says that it is a stone caught in shallow places near the coast of Ning-po, resembling the genuine coral (*shao-shu*), being white, when coming out of the water, and afterwards turning purple or black. Li Shi-chün objects to the application of the term *lang-kan* to these marine products which, according to him, should be credited with the name *shao-shu*, while the former should be restricted to a stone occurring in the mountains. Compare also SCHLEGEL, *T'oung Pao*, Vol. VI, 1895, p. 58; F. DE MÉLÉ, *Lapidaires chinois*, p. 55; HIRTH and ROCKHILL, *Chou Ju-kua*, pp. 162, 226. The word *lang-kan* seems to be an onomatopoeic formation descriptive of the

THE MINERALOGICAL TERM MEI-HUI. — Finally we have to discuss the term *mei-hui* 玫瑰, which, according to Li Shi-chên, also should refer to lenses. It first appears in the poem *Tse hiu fu* 子虛賦 of Se-ma Siang ju, who died in 117 a.c., as one of the mineral products of Sze-ch'uan.¹ Kuo P'o (275–324) explains it as a stone bead 石珠; Tsai Pao 晉灼 says that it is identical with *huo-ts'i* beads; and Yen Shi-ku (579–645) reiterates the same, adding that "it is the 'fire-pearl' coming at present from the countries of the south."² These definitions are vague and unsatisfactory, being made by philologists who in all probability had never seen any of the stones in question. Yen Shi-ku errs in identifying *huo-ts'i* with *huo-chu*, and therefore the identification of both with *mei-hui* is presumably wrong also. The dictionary *Shuo wen* (A.D. 123) notes *huo-ts'i* as an equivalent or synonyme of *mei-hui*; as we have shown that the former covers the group of micas, it would follow from this definition, provided it is correct, that *mei-hui* should be a variety of mica, and consequently cannot be a burning-lens.

The term *mei-hui* is listed also in the ancient vocabulary *Ki tsai chang* 急就章, edited by Shi Yu 史游 under the reign

sound yielded by the sonorous stone when struck (compare the words *lang* 礧, "rumbling of stones, roll of a drum;" and *lang* 朗, "clear, as light or sound;" *lang-lang* 朗鎗 is used in Peking as an interjectional expression, imitative of the noise of gongs and drums; in general compare chap. IV of WATKINS, *Essays on the Chinese Language*). This point of view would account for the fact that the name *lang-lan* was transferred from a stone to a coral; for Tu Wan, in his *T'ao hia shi p'ia* (l. c.), expressly states that the coral *lang-lan* when struck develops resonant properties.

¹ *Sai ki*, Ch. 117, p. 2 b; and *Ts'ien Han shu*, Ch. 57 A, p. 2 b. Yen Shi-ku defines the pronunciation of the two characters as *mei* and *hui* (or *hui*), but admits for the latter also the sound *hui* (玫音枚。瑰音回。又音瓊).

² 火齊珠。今南方之出火珠也。 This clause is interesting, inasmuch as it proves the importation of lenses into China in the first half of the seventh century,—a fact which, as will be seen, is confirmed by the T'ang Annals.

of the Emperor Yüan (48–33 B.C.),¹ with reference to jars made from this stone and three others. It is simply defined as "fine jade" in the commentary. This explanation, again, would banish any idea of burning-lenses.²

What the *mei-hui* mentioned by Se-ma Siang-ju was, no Chinese commentators really knew. Their explanations are makeshifts to conceal their lack of proper knowledge of the subject. This much seems certain, that the *mei-hui* of Sze-ch'uan was not mica (*huo-ts'i*), first, because mica is not known to occur there; and, second, because the name *mei-hui* denotes also the rose,³ and accordingly the mineralogical term seems to refer to a rose-colored stone. For this reason it seems out of the question also that it could have been used as a lens, and there is indeed no account to this effect, mentioning the employment of *mei-hui*. The case, therefore, is one of purely literary extension of significance. The original meaning of the word having fallen into oblivion, it

¹ Regarding this work see the important study of CHAVANNE, *Documents chinois déconcertés par Aurel Stein*, pp. 1–10. The passage referred to is in *Pien tao tai pien*, Ch. 79, p. 13 b.

² The apocryphal work *Sün i shi*, of the sixth century, which has not come down to us in its original form, is credited with the statement, "Snake-pearls are those vomited by a snake. There is a saying in the districts of the Southern Sea (Kuang-tung, etc.) that a thousand snake-pearls are not the equivalent of a single *mei-hui*, which means that snake-pearls are low in price. Also *mei-hui* is the designation of a pearl (or bead, jewel)."

³ *Rosa rugosa*, with red and pink flowers (G. A. STUART, *Chinese Materia Medica*, p. 381; and M. J. SCHMIDEN, *Die Rose, Geschichte und Symbolik*, p. 228, who enumerates several species of rose in China). The Japanese naturalist Ono Kuzan states that the precious stone *mei-hui* is named for the color of the flowers of *Rosa rugosa*, and invokes the Chinese work *T'ien kang k'ai wu* 天工開物 by Sung Ying-ai of 1629 (3d ed., 1637), as his authority (GEMMUS, *Produits de la nature japonaise et chinoise*, Vol. II, p. 360). I cannot trace this reference in the latter work, but find there that *mei-hui* is treated as a special kind of precious stone "resembling yellow or green pears; the biggest are red, green, blue, yellow, in short, occurring in all colors; and there are also *mei-hui* like pearls" (see *T'ien kang k'ai wu*, chapter on precious stones, *jiao shi*). Yet I am convinced that Ono Kuzan encountered this statement in some Chinese book, and may have erred only in quoting the *T'ien kang k'ai wu*.

became free to assume the same meaning as *huo-ts'i*, in the rôle of an elegant term of the *estilo culto*. The fact that it really interchanges with the latter is manifested by the account of Persia in *Nan shi*,¹ where *mei-hui* are listed among the products of that country: while, as mentioned on p. 195, the analogous reports in *Pei shi*, *Wei shu* and *Sui shu* have the term *huo-ts'i* in the same passage. Thus the greatest probability is that also *mei-hui*, as used in this text of the *Nan shi*, denotes the mica of India. As regards other foreign countries, we find *mei-hui* mentioned in the *Wei liu*, written by Yü Huan between 239 and 265, as a product of the Roman Orient (Ta Ts'in),² and worn on the high head-dress of the women of the King of the Epthalites (Ye-ta).³

After having overthrown the nebular hypotheses of foreign and Chinese scholars, the path is finally cleared for discussing the real thing, the history of burning-lenses in China. There is only one term in the Chinese language which may lay claim to having this significance, and that is *huo chu* 火珠 (the "fire-pearl").

INTRODUCTION OF BURNING-LENSES INTO CHINA. — The first historical mention of "fire-pearls" (*huo chu*) is made in the Annals of the Tang Dynasty (618—906),⁴ where they are connected with a tribe of Malayan or Negrito stock, styled "Lo-ch'a" 羅刹, and inhabiting an island in the Archipelago east of P'o-li 婆利 (Bali). "Their country," it is said, "produces fire-pearls in great number, the biggest reaching the size of a fowl's egg. They are round and white, and emit light at a distance of several feet. When held

¹ Ch. 79, p. 8.

² HIRTH, *China and the Roman Orient*, p. 73.

³ *Lo-yang k'ia-tan shi* 洛陽伽藍記, written in 547 by Yang Hsuan-chi 楊衒之 (quoted in *T'u shu tai shi-t'ung*, *Pien i tien* 67, Ye-ta, *kuo k'uo* 2).

⁴ *T'ang shu*, Ch. 222 c, p. 1 b.

against the rays of the sun, mugwort¹ and rushes² will be ignited at once by fire springing from the pearl."³ The same text, with slightly varying phraseology, is given also in the *Old History of the T'ang Dynasty*,⁴ where, however, the interesting addition occurs, that this pearl is in appearance like crystal (狀如水晶). Hence we may justly conclude that these fire-peards were convex crystal lenses, whose optical properties were utilized in producing fire for the medical purpose of cauterization.⁵

¹ Chinese *ai* 艾, *Artemisia vulgaris*, a plant common in China and from ancient times used in cauterizing the skin (see BALTHUSSENER, *Bot. Sin.*, pt. 2, No. 429; pt. 3, No. 72),—a process known to us by the Japanese name *moxa* (properly *moyasa*, the Jap. word for *Artemisia*). The best leaves are taken and ground up with water in a stone mortar, the coarsest particles being eliminated, and the remainder being dried. A small portion is rolled into a pellet the size of a pea, placed upon the ulcer or spot to be cauterized. The preferred method of igniting the moxa is still by means of a burning glass or mirror (compare G. A. STRAUZ, *Chinese Materia Medica*, p. 53). The most interesting and detailed account of this practice was written by ESCHMÜTHER KAEMPFER in the seventeenth century (*History of Japan*, Glasgow edition, Vol. III, pp. 277—292). Kaempfer states that the Japanese used burning splinters or incense-sticks to ignite the moxa.

² KAEMPFER (*l.c.*, p. 276) informs us that the most common caustic used by the Brahmans of India is the pith of rushes, which grow in marshy places. This pith they dip into sesamum-seed oil, and burn the skin with it after the common manner.

多火珠。大者如雞卵。圓白照數尺。日中以艾藉珠輒火出。

³ *Kiu T'ang shu*, Ch. 197, p. 1 b.

⁴ GROENEVELDT (*Notes on the Malay Archipelago*, p. 206, in *Miscell. papers relating to Indo-China*, Vol. 1), who was the first to indicate the relevant passage of the *T'ang shu* (but neglected the corresponding text of the *Kiu T'ang shu*), was therefore wrong in affirming that the fire-pearl is "evidently a kind of burning-glass, but whether of glass or crystal, and manufactured in what place, we have no means to ascertain." We have, as will be seen farther on, the means of ascertaining that these crystal lenses were manufactured in India. Another error of Groeneveldt was to assign the fire-pearls to the country of P'o-li instead of Lo-ch'a. FÉLIX (Bull. de l'École française, Vol. IV, p. 233, note 3) has clearly pointed out the confusion prevailing in this chapter of the *T'ang Annals*, and has shown that it was the wild men of Lo-ch'a visiting the coasts of Champa in order to sell these crystal lenses, carrying on their trade at night, while hiding their faces during the day (*ibid.*, p. 281, but he too speaks of "lentilles de verre"). G. SCHLEGEL (*T'oung Pao*, Vol. IX, 1898, p. 178; and 1901, p. 334), who revealed the same text from the Chinese Gazetteer of Kuang-tung Province, offered the inadequate translation, "Their country produces ear-

The crystal lenses, accordingly, were employed in the same manner as the burning-mirrors of copper or bronze in a former period. The *Ku kin chu* 古今注¹ of Tsai Pao 崔豹 of the fourth century states that the latter served for the purpose of setting mugwort on fire.²

The Annals of the Tang Dynasty indicate also the fact that in 630 King Pan-tou-li 范頭黎 sent an embassy to China to present such lenses.³ It is this text of the Tang Annals which gave to Li Shi-chên occasion for his general statement of the subject, as quoted above. We now observe that he has cited the text inaccurately, and has credited it with the term *huo-ts'i-chu* instead of *huo chu*. The former, however, as we have seen, denotes mica, which cannot be used for lenses; the latter relates to rock-crystal; and it is essential to discriminate between the two. Likewise it is not to the point when he asserts that the lenses now found in Champa are styled "great fire-pearls of the morning dawn." "Morning dawn" (*chao hia*) is well known to us as the designation of a specific textile fabric;⁴ and in the passage of the Tang Annals indicated it happens that the two terms "morning-dawn cloth" and "fire-pearl" (*chao hia pu huo chu* 朝霞布火珠) are closely joined, hence arose, apparently, the misunderstanding of Li Shi-chên.

bunches (*huo chu*) which are like crystals." Carbonates certainly are not like crystals, nor can they be utilized as optical lenses. C. PUNZI (*Enciclopedia sinico-giapponese*, p. 65, Firenze, 1877) had already indicated that *huo chu* is a species of quartz.

¹ Ch. c, p. 5b (ed. of Hsu Wei Ts'ang shu).

· 陽燧以銅爲之。形如鏡。何日則火生以艾承之則得火也。

² The last clause in the definition of these is worded in the *Old History* thus: "When held against the sun at noon in order to ignite mugwort, the latter is consumed by fire" (正午向日以艾蒸之即火燃).

³ PERROT, *T'oung Pao*, 1912, p. 459; GUAN, *Adversaria Sinica*, p. 394; LAUFER, *T'oung Pao*, 1913, pp. 339, 340; *Ling-wai tai ta*, Ch. 6, p. 13.

A book entitled *Sui T'ang kia hua* 隋唐佳話¹ informs us that in the beginning of the period Ch'eng-kuan (627—650) the country Champa (Lin-yi) offered to the Court burning-lenses (*huo chu*), in appearance like rock-crystal, stating that the people of Champa had obtained them from the Lo-ch'a country, whose inhabitants have red hair, a black skin, teeth like animals, and claws like hawks.²

The Lo-ch'a or Rākshasa, who, judging from the unflattering description of the Chinese, were a wretched, savage tribe (but sufficiently advanced to practise navigation and to trade with Champa),

¹ Quoted in *Pien tse lei pian*, Ch. 21, p. 3 h.

² Chinese Lo-ch'a is the transcription of the Sanskrit word *Rākshasa*. The latter is the designation for a class of man-devouring ogres with red neck and eyes, and protruding tusks, roaming about at night and doing mischief to mankind. It was believed by Groeneveldt and Schlegel that the country of the Lo-ch'a mentioned in the T'ang Annals is identical with the Nicobar Islands; but PELLIOY (*Bull. de l'Ecole française*, Vol. iv, p. 281) has rightly demonstrated the baseness of this theory, with the result that the country of the Lo-ch'a in question was situated east of Po-li, which is identical with Bali, the island east of Java. GERINI (*Researches on Yüenyü's Geography of Eastern Asia*, p. 497) likewise has antagonized that theory, arguing that Lo-ch'a refers to the more southern parts of the Malay Peninsula, and perhaps stands also for the wilder tribes of Negrito-Sakai stock populating its eastern coast; but this opinion conflicts with the Chinese accounts of Lo-ch'a. In the belief of the Indians, the main abode of the Rākshasa demons was Ceylon (*Langka*), which for this reason was styled also Rākshasālaya ("Abode of the Rākshasa"); and as such, Ceylon appears in the great epic poem *Ramayana*, in which King Rāma vanquishes these fierce devils of Ceylon. A country of the Rākshasa plays a signal rôle in the Tibetan cycle of legends clustering around Padmasambhava, who lived in the eighth century (see E. SCHLAGINTWEIT, *Lebensbeschreibung von P.*, i, p. 21; and LAUTER, *Roman eines tibetischen Königs*, p. 224). It would be tempting to regard the Lo-ch'a as a tribe like the Vedda of Ceylon, but for geographical reasons it is assuredly impossible to place the Lo-ch'a on Ceylon. Such a nickname as Rākshasa could certainly have been applied by the superior castes of India to any inferior aboriginal tribes (compare the note of YULE, in his *Marco Polo*, Vol. ii, p. 312, regarding a Brahman tradition that the Rākshasas had their residence on the Andaman, and the analogous application in India of the words *Nôga* and *Pigra*). Indian traditions referring to Rākshasa tribes, therefore, cannot assist us toward the identification of the Lo-ch'a country of the T'ang period, which, as justly upheld by Pelliot, was an island in an easterly direction from Bali. It may be supposed that it was the highly cultivated peoples of Java and Bali who conferred the name "Rākshasa" on that primitive tribe in their proximity.

certainly were themselves not able to produce fire-making lenses.¹ From what quarters was their supply derived? We are informed by the Annals of the T'ang Dynasty that in the year 641 Magadha in India sent to the Chinese Court tribute-gifts among which appeared fire-lenses (*huo chu*),² and, further, that Kashmir produces fire-lenses, saffron, and horses of the dragon breed.³ The latter notice is contained also in the memoirs written by the celebrated pilgrim Hsuan Tsang in 646;⁴ and his statement, based on actual observation, was doubtless the source from which the official history of the T'ang dynasty drew. The Arabic mineralogists also — as, for instance, al-Akḥḥāl — knew Kashmir as a country producing rock-crystal.⁵

In the beginning of the period K'ai-yüan (713—742) Kashmir sent as tribute "pearls of supreme purity" (*shang ts'ing chu* 上清珠), illuminating an entire house with their splendor.⁶ Possibly also in this case crystal lenses are understood.

I Tsing, the Buddhist monk and traveller, who journeyed in India from 671 to 695, observes, "It is only in China where stones are internally taken as medicine. Since rock-crystal and marble emit

¹ GEMINI (*l.c.*, p. 491), who erroneously locates the Lo-ch'a on the east coast of the southern portion of the Malay Peninsula, conjectures with reference to these crystal lenses that rock-crystal "very likely" occurs in that region. This point of view is quite immaterial. Whether rock-crystal is found there or not, the Lo-ch'a certainly did not quarry it; and if they did, it was not wrought by them into lenses. Quartz, for instance, is common on the Andamans, but the natives make it only into chips or flakes used in shaving or tattooing, while even the art of eliciting fire from the stone by means of striking is wholly unknown to them (E. H. MANN, *Journ. Anthropol. Inst.*, Vol. xii, 1883, p. 381).

² *T'ang shu*, Ch. 221 A, p. 11.

³ *T'ang shu*, Ch. 221 B, p. 6. Compare CHAVANNES, *Documents sur les Tsin-king occidentaux*, p. 166.

⁴ JULIEN, *Mémoires sur les contrées occidentales*, Vol. i, p. 167, who translates "glass lenses"; and WATTYUS, *On Yuan Chwang's Travels in India*, Vol. ii, p. 261.

⁵ WIEDERKAMP, *Zur Mineralogie im Islam*, p. 256. Al-Akḥḥāl died in 1348.

⁶ *T'ang tsu pien* by Su Ngo, Ch. 1, p. 3 (ed. of *Fai Hui*).

sparks of fire, the organs of the body, if those stones are administered, may be scorched and ripped open. Many of our contemporaries, being unaware of this fact, have suffered death in consequence of this wrong treatment."¹ In Chinese alchemy preparations made from jade and mica played a signal part, and were consumed by ambitious devotees to insure long life or immortality.² When crystal lenses made their appearance in China, the belief was naturally fostered that fire was a substance inherent in the stone. Fire was considered as an element belonging to the male, creative, and life-giving principle called *yang*, so that a mineral partaking of it was apt to strengthen the body and to prolong life. The evil effect of the internal application of rock-crystal, as conceived by I Tsing, thus becomes intelligible: in the same manner as a crystal lens can set fire to an object, so it may cause the human body to catch fire.

The information given in the T'ang Annals with regard to the Lo-ch'a originated from the mission which carried Ch'ang Tsiün 常駿 in the year 607 into the country Ch'i-t'u 赤土. On his journey he is said to have reached the country of the Lo-ch'a, while in another passage it is stated that owing to this mission the inhabitants of the Lo-ch'a country entered into relations with China.³

¹ *Nan hai ki kwei mei fa chuan*, Ch. 3, p. 20 (ed. of Tokyo); compare J. TAKAKUSU (*Record of the Buddhist Religion*, p. 135), who wrongly takes the term *pei shi* 白石 (literally, "white stone") for adular, which does not occur and is unknown in China; *pei shi* repeatedly appears in the votive inscriptions on Buddhist marble sculptures of the T'ang period, and is still the current expression for "marble." It would be possible that I Tsing employed the term *pei shi* as a rendering of Sanskrit *śilopala* ("white stone"), which is a synonym of *śphatika* and accordingly a variety of quartz or rock-crystal (R. GARNY, *Die indischen Mineralien*, p. 87). Takakusu speaks of "the swallowing of a stone;" the stones were of course triturated and powdered, the mass was kneaded and prepared with other ingredients.

² Under the Sui (589—618) was still extant a treatise on the Method of Prescriptions in administering Jade (*Pu yü fang fa* 服玉方法). See *Sui shu*, Ch. 34, p. 21.

³ PELLIOU, *Bull. de l'École française*, Vol. IV, p. 281.

The latter statement seems to be the more probable of the two. The date 607 may thus be fixed as the time when the Chinese made their first acquaintance with burning-lenses; and during the first part of the seventh century a somewhat lively trade in the article was carried on from Champa to China. Hence Yen Shi-ku (579—645), as mentioned, justly points to the importation of burning-lenses from the south during his time. While, as a last resort, the Lo-ch'a lenses are traceable to India, we have as yet no means of ascertaining through what channels these lenses were transmitted from India to the Lo-ch'a. At this point there is a lacune in our knowledge which I am unable to fill; it may be supposed only that Sumatra or Java, or both countries, acted as middlemen in this traffic, but I regret having no certain facts along this line to offer.

It is curious that a tribe of such a low degree of culture as the Lo-ch'a possessed burning-lenses, and was instrumental in conveying this Indian article to Champa and China. This fact we may explain from ethnographical conditions of the present time, with which we are familiar: the Lo-ch'a, though acquainted with natural fire and its uses, must have been a tribe that did not know of any practical method of producing fire. Such a people, for example, we meet among the Andamanese, of whom E. H. MAN¹ says, "The Andamanese are unable to produce fire, and there is no tradition pointing to the belief that their ancestors were their superiors in this respect. As they live in the vicinity of two islands, one of which contains an extinct, and the other an active volcano, it seems not unreasonable to assume that their knowledge of fire was first derived from this source. Being strangers to any method of producing a flame, they naturally display much care and skill in the

¹ *Journ. Anthropol. Inst.*, Vol. XI, 1883, p. 272; compare also Vol. XII, 1883, p. 150.

measures they adopt for avoiding such inconvenience as might be caused by the extinction of their fires. Both when encamped and while journeying, the means employed are at once simple and effective. When they all leave an encampment with the intention of returning in a few days, besides taking with them one or more smouldering logs, wrapped in leaves if the weather be wet, they place a large burning log or faggot in some sheltered spot, where, owing to the character and condition of the wood invariably selected on these occasions, it smoulders for several days, and can be easily rekindled when required." Nothing introduced by the English so impressed this people with the extent of their power and resources as matches. It is notable also that the household fire is not held sacred by the Andamanese, or regarded as symbolical of family ties, and that no rites are connected with it; there are not even beliefs with reference to its extinction or pollution. The Lo-ch'a must have lived under exactly the same conditions when burning-lenses were first introduced among them from India. Not familiar with any practical method of fire-making or any fire-ceremonial, they readily took to this easy expedient, as the modern Andamanese did to our matches. It is still the primitive tribes spending most of their time in the open air, like the Lepcha and Tibetans (see below), who evince a predilection for the application of the burning-lens in fire-making.

Besides the name *huo zhu* 火珠, the term *huo shi zhu* ("fire-igniting lens") is found in the *Chêng lei pên ts'ao*, completed by Tang Shên-wei in 1108.¹ From the same work it follows also

¹ 火燧珠向日取得火 (*Chêng lei pên ts'ao*, Ch. 3, fol. 44, edition of 1523). This is the concluding sentence of a brief notice on *p'o-hi* (see above, p. 200). Both the *Chêng lei* and the *Pên ts'ao kang-an* accept this term in the sense of "rock-crystal" (*aphatite*), *Lí Shí-chên* giving as synonyms the term *shui yü* 水玉, which appears in the *Sân kai king* and in the poem on the Shang-lin Palace 上林賦

that burning-lenses were manufactured in China under the Sung. Whether this was the case under the T'ang I am unable to say.

BURNING-LENSES IN INDIA AND SIAM. — The preceding Chinese accounts are clear enough to allow the inference that the so-called "fire-pearls" were lenses of rock-crystal cut into convex shape, that they were used for cauterization in the same manner as reported by Pliny, and that they were introduced into China, through the medium of the Lo-ch'a and of Champa, from Kashmir, or other regions belonging to the culture-zone of India. In short, what the

of So-ma Siang-jui: its transparency, he says, equals that of water, its hardness that of jade, hence this term; the name "water-jade" is identical with rock-crystal (其瑩如水, 其堅如玉, 故名, 水玉與水精同名). The opinion of both T'ang Shên-wei and Li Shih-chên goes back to Ch'ên Ts'ang-k'î of the T'ang period, whose definition of *p'o-li* is as follows: "*P'o-li* is a precious stone of the Western countries. It belongs to the category of hard stones, and is developed in the soil. According to the opinion of some it results from the transformation of ice that is a thousand years old; but this is certainly not the case" (陳藏器曰, 玻瓈西國之寶也, 玉石之類, 生土中, 或云千歲冰所化, 亦未必然). Nobody, as far as I know, has as yet explained the statement of Li Shih-chên that the original mode of writing is 頗黎, and that this name *P'o-li* is the designation of a country. *T'ai p'ing yü lan* (Ch. 808, p. 8) quotes a work *T'ien chü k'î* 天竺記 ("Memoirs of India") as follows: "In the Himalaya, there is the mountain of precious stones producing the complete series of the seven gems (*saptaratas*), all of which may be obtained. Only the *p'o-li* gem is produced on such lofty peaks that it is difficult to obtain" (大雪山中有寶山諸七寶並生取可得, 唯頗黎寶生高峯難得). Here we are confronted with the reproduction of an Indian notion that meets its parallel in the *Ratnaparīkṣā*, according to which rock-crystal is a product of Nepal (L. FROST, *Lapidaires indiens*, p. 56). Certainly the people of India did not hunt for glass on the heights of the Himalaya. The King of Nepal adorned himself with pearls, *p'o-li*, mother-o'-pearl, coral, and amber (*T'ang shu*, Ch. 221 a, p. 1); his *p'o-li* certainly were a kind of rock-crystal, as also S. LÉVI (*Le Népal*, Vol. 1, p. 164) understands, but not glass. The Buddhist monk Hsüi Yün 慧苑 of the T'ang period, in his Glossary to the *Buddhāvataṃsaka-sūtra* (華嚴經音義, Ch. 1, p. 8, ed. of *Shao shan ku ts'ung shu*, Vol. 94; see Benyün Nanjio, No. 1606), explains *p'o-li* as "to some degree resembling in appearance rock-crystal (水精; that is, the variety of rock-crystal indigenous in China), yet occurring also in red and white varieties."

Chinese received were Indian manufactures. Hence it is legitimate to conclude that the Chinese name *huo-chu*, conferred upon these lenses, represents the translation of a corresponding Sanskrit term. Such, indeed, exists in the Sanskrit compound *agnimani*, the first element of which (*agni*) means "fire," answering to Chinese *huo*; and the second part of which (*mani*) signifies a "pearl, bead, gem, or jewel," exactly like the Chinese word *chu*.¹ Moreover, Sanskrit *agnimani*, according to the Sanskrit Dictionary of Boehtlingk, is an epithet of the stone *sūryakānta*, which means "beloved by the sun," so called because it produces fire under the influence of solar rays. Other synonymes are *tapanamani* ("sun jewel"), *tāpana* ("dedicated to the sun"), *diptopala* ("refulgent stone"), *agnigerbha* ("essence of fire"), — all of these, as correctly seen by L. FÉROT,² referring to rock-crystal. A Hindu treatise on precious stones, the *Navaratnaparikshā*, says, under the subject of rock-crystal, that the

¹ Although apparently formed in imitation of this Sanskrit expression, the term *huo chu*, notwithstanding, pre-existed in China independently of Indian influence, but in a widely different sense. The following story is on record in the *Annals of the Tsin Dynasty* (*Tsin shu*, Ch. 99, p. 1; biography of Hêng Hsian 桓玄). His mother, née Ma 馬氏, was sitting one night with her companions in the moonlight, and saw a shooting-star fall into a copper basin filled with water. In the water appeared what looked like a fire-pearl (*huo chu* 火珠) of two inches, diffusing a bright, clear light. Madame Ma took it out with a gourd ladle and swallowed it. When she gave birth to her son, the house was filled with effulgent light; hence the infant received the name Ling-pao 靈寶 (that is, "Supernatural Treasure"). It is evident that this "fire-pearl" was a product of meteoric origin. A similar account is found in the *Bamboo Annals*: Siu-ki 修己, the mother of the Emperor Yü 禹, saw a falling-star, and in a dream her thoughts were moved till she became pregnant, after which she swallowed a spirit pearl (*ling-pao*, *Chinese Classics*, Vol. III, Prolegomena, p. 117). The term *huo chu* appears again in *Tsin shu* (Ch. 95, p. 13 b) in connection with the description of the costume, ornaments, and paraphernalia worn by the heir-apparent. There is no explanation of its meaning in this text: perhaps it was a flaming or sparkling gem. In the latter section I encountered the term in two passages of the *Sshi i ki* (Ch. 5, p. 5 b; and Ch. 7, p. 2; ed. of *Han Wei t'ung shu*); in one case the question is of an extraneous hairpin adorned with a fire-pearl dragon and a phoenix.

² *Lapidaires indiens*, p. XLVII.

variety of the stone which, struck by sunlight, instantaneously elicits fire, is styled *suryakanti* by the connoisseurs. The physician Narahari from Kashmir, who wrote a small *lapidarium* in the beginning of the fifteenth century, observes in regard to the same stone, "If it is smooth, pure, without fissures and flaws in the interior, if polished so that it displays the clearness of the sky, and if from contact with solar rays fire springs from it, it is praised as genuine."¹ Narahari dilates likewise on the medical virtues of the stone, to which he lends the attribute "sacred," and which, if honored, procures the favor of the sun.

Fire-production by means of lenses was not a very ancient, or a common, or a popular, practice in India, any more than in classical antiquity.² In the oldest epoch of India's history, the Vedic period, we hear only of fire-making by means of friction from wooden sticks. The daily birth of Agni, the god of fire, from the two fire-sticks (*araya*), is often alluded to in Vedic literature.

¹ R. GABER, *Die indischen Mineralien*, p. 80. Gaber commits the error of regarding this stone as the sunstone, being misguided by the Sanskrit name *suryakanti*, and speculates that also the Indian name has come with this stone to Europe. All this is erroneous. First, the sunstone is not known to occur in India, but it occurs near Verkhui Udinsk in Siberia, Fredestraud and Hitterö in Norway, Stateville in North Carolina, and Delaware County in Pennsylvania (BAUER, *Edelsteinkunde*, 2d ed., pp. 328, 329); second, the name "sunstone" is bestowed upon this kind of feldspar by us, not by the Indians, because it reflects a spangled yellow light originating from minute crystals of iron oxide, hematite, or goethite, included in the stone, and which both reflect the light and give it a reddish color (FARRINGTON, *Gems and Gem Materials*, p. 179); this case, therefore, is totally different from that which induced the Hindu to name a certain variety of rock-crystal "sun-beloved;" third, feldspars, like the sunstone, are not made into burning-lenses, such as are described by Narahari. After arriving at his fantastic result, Gaber is forced to admit that Narahari is wrong to classify the (that is, Gaber's) "sunstone" among the quartzes; but the physician of Kashmir who does not speak of "our" sunstone is perfectly right in grouping rock-crystal among quartzes, and the blunder is solely on the part of Gaber.

² The utility of the burning-lens, of course, has its limitations. It is dependent upon a cloudless sky and the power of strong sunlight. At night when fire may be most needed it is put out of commission.

They are his parents, the upper being the male, and the lower the female; or they are his mothers, for he is said to have two mothers.¹ The *Vāyu Purāna*, one of the oldest of the eighteen Purānas, presumably dating in the first half of the fourth century,² mentions three kinds of fire, — the solar fire (*saura*), or the pure one, or the fire of the gods; fire proceeding from lightning, procured from trees ignited by a lightning-stroke; and fire obtained by friction. Whether and how the first-named was secured we do not know. It would be very tempting to believe that this celestial fire, obtained by concentrating the rays of the sun, was the result of an application of lenses, as, indeed, is still the case in Siam (see below). Such a conclusion, however, would hardly be justified. In all probability, only the divine or transcendental fire, like that in the Greek myth of Prometheus, is here intended. Also in the Avesta, the sacred writings of the ancient Iranians, in which five kinds of fire are distinguished, the fire of heaven burning in the presence of Ahura Mazda is known;³ and there is no record of the use of burning-lenses on the part of the Iranians.⁴

¹ COMPAGNON, A. A. MACDONELL, *Vedic Mythology*, p. 91; H. OLDENBERG, *Religion des Veda*, p. 105; H. RUTH, *Indisches Feuerzeug* (*Z. D. M. G.*, Vol. 43, pp. 590—594); F. SPINDEL, *Arische Periode*, p. 147. The modern processes of fire-making in India are well described by E. THURSTON, *Ethnographia Notes in Southern India*, pp. 464—470 (Madras, 1906).

² V. A. SMITH, *Early History of India*, p. 305 (3d ed., Oxford, 1914).

³ A. V. W. JACKSON, in *Grundriss der iranischen Philologie*, Vol. II, p. 641; W. GEIGER, *Ostiranische Kultur*, p. 253.

⁴ A material difference between the fire-worship of the ancient Indians and Iranians lies in the point that fire-making ceremonies predominate with the former (a good and succinct description of these will be found in the new book of L. D. BARNETT, *Antiquities of India*, pp. 156—161), while the latter were eager to seek for the sites of natural fire (JACKSON, *Zoroaster*, pp. 98—101), so that the artificial production of fire was not part of their rites. Much valuable information relative to the Persian worship of fire has been gathered by DIEHLAVOY (*Sacr*, pp. 393 *et seq.*). The Avesta (VIDÉDÉT, xiv, 7; F. WULFF, *Avesta*, p. 405) mentions fire-implements without description of particulars, and we seem to have no information as to Iranian methods of fire-making. This is the more deplorable, as the Persian form of fire-worship spread into all parts of the world, — to

In Sanskrit medical literature I have not yet found any reference to burning-lenses,¹ but the employment of burning-mirrors in medical practice is well ascertained for ancient India. Such mirrors, probably made of metal,² are twice mentioned in the medical work *Ashṭāṅga-Hṛdaya*.³ In one case, certain drugs are to be ground on it; and a counterpart of this practice appears in a recipe of the famous Bower Manuscript, coming down from the middle of the fifth century: "Let long pepper and turmeric be rubbed repeatedly on a mirror, and anoint with them the eye when it suffers severe pain; it will then quickly become well." In the other case (mentioned in the above work), the wound of a person bitten by a rat is to be cured by an arrow or a mirror, and, as

ROME (F. CUMONT, *Mysteries of Mithra*, p. 99; and *Oriental Religions in Roman Paganism*, p. 137), to India (R. G. BHARDASAR, *Faichnavism*, pp. 151—155), and to China (Masūtī, in B. de MEYNAUD, *Prairies d'or*, Vol. I, p. 308; J. J. MOBI, *References to China in the Ancient Books of the Persians*, in his *Asiatic Papers*, pp. 241—254; CHAVANNES, *Le Nestorianisme*, *Journal asiatique*, 1897, pp. 60, 61, 74, 75; PELLLOT, *Bull. de l'Ecole française*, Vol. III, pp. 669, 670). It could very well be conceived that the Persian Magi, who appear in India under the name Maga and in China as Ma-ho (*Mémoires concernant les Chinois*, Vol. XVI, p. 230; CHAVANNES and PELLLOT, *Traité Manichéen*, p. 170), should have had a certain share in the diffusion of burning-lenses; but this, for the time being, remains purely a matter of speculation, as we are entirely ignorant of any evidence in the case. One curious coincidence, however, deserves attention in this connection, and this is the sacred candle of the Sissame lighted with "celestial fire" by means of a burning-glass (mentioned below) and the same "celestial fire" kept constantly burning in a lamp by the Persian Kings as a symbol of the perpetuity of their power; and it passed with the mystical ideas of which it was the expression to the Diadochi, and from them to Rome, where the celestial fire received as its emblem the inextinguishable fire that burned in the palace of the Caesars, and which was carried before them in official ceremonies.

¹ Cauterization was practiced by Indian physicians (see HOERNLE's translation of *Saṃhitā*, pp. 74—80).

² Regarding mirrors in ancient India, see the writer's *Dokumente der indischen Kunst*, I, p. 174.

³ That is, the "Quintessence of the Eight Parts of Medicine," ascribed to the physician Vāgbhata, probably written before the eighth century (J. JOLLE, *Indische Medicina*, p. 8; the time of the work is fully discussed by JOLLE in *Z. D. M. G.*, Vol. 54, 1900, pp. 260—274).

supposed by Dr. Hoernle, by the reflection of the sun-rays focussed on it.¹

The lack of information on objects of reality so painfully obtrusive in Indian literature, combined with the defect of a sound chronological sense, renders it impossible to trace a *terminus a quo* for the utilization of burning-lenses; and the records of the Chinese present our only reliable source in this respect. Indeed, the students of India have never taken up this problem, and may now hear for the first time that burning-lenses were ever known in India. The information coming from Chinese sources, which establish the date of the first introduction of such lenses into China in the beginning of the seventh century, allows the inference that they were made and employed in India prior to this date. This result, however trifling it may appear at first sight, is significant in bearing out the fact that long before the Arabic invasion of India (710) burning-lenses were operated there, and that the idea cannot have been imported into India by the Arabs.

Sacred fire was annually obtained from crystal lenses at the Court of the Emperor Akbar, and all the fires of the imperial household were lighted from it. His historian, Abul Fazl Allami (1551—1602), thus describes the ceremony:² "At noon of the day, when the sun enters the nineteenth degree of Aries, the whole world being then surrounded by its light, they expose to the rays of the sun a round piece of a white and shining stone, called in Hindi *sārojkrānt*. A piece of cotton is then held near it, which catches fire from the heat of the stone. This celestial fire is committed to the care of proper persons. The lamp-lighters, torch-bearers, and cooks of the household use it for their office; and when the year has passed in happiness, they renew the fire. The vessel

¹ Compare A. F. R. HOERNLE, *The Bower Manuscript*, p. 160.

² H. BLOCHMANN, *Asiatic Researches*, Vol. 1, p. 48 (Calcutta, 1873).

in which this fire is preserved is called 'fire-pot.' There is also a shining white stone, called *chandrkrānt*, which, upon being exposed to the beams of the moon, drips water."¹

Burning-lenses are still employed in Siam at state ceremonies, like the New Year festival, or during the tonsure-ceremonial when Buddhist monks are ordained, for obtaining what is called the "celestial fire" (*fai fa*). The medium enlisted is a huge wax candle, styled *thien chai* (literally, "victorious taper"), which is prepared under the direction of the head priest of some royal temple. The wax employed for a single taper amounts to twenty-six pounds in weight; the wick consists of a hundred and eight cotton threads, a number sacred with the Buddhists; and the length is about five feet. Round it are inscribed the magical formulas and diagrams which are prescribed by custom. This sacred candle is usually lighted by means of celestial fire, generated from the sun by the use of a huge burning-glass (*wen fai*) mounted on a richly gilded and enamelled frame. The fire thus kindled is protected in a lamp until the auspicious moment arrives for applying it to the "torch of victory." The lamp is then brought before the king, who takes

¹ The Hindi word corresponds to Sanskrit *chandrakānta* ("beloved by the moon"), in the same manner as does *sūryakānta* to the above Hindi name for the crystal lens. *Chandrakānta* is a kind of rock-crystal, generally believed in India to shed water when the moon shines on it (PINOY, *Lapidaires indiens*, p. XLVIO). The Tibetan rendering of this term is *c'a žel* ("water crystal"), explained as "a fabulous magic stone supposed to have the power of producing water or even rain" (JASSQUE, *Tibetan-English Dictionary*, p. 562). GREHARD's opinion (*Mission scientifique dans la Haute Asie*, Vol. II, p. 407), that this stone "employed by the Tibetan sorcerers who have the power of causing or stopping rain" probably is jade, is inadmissible; the Tibetan word for "jade" is *gang-fi* or *g-gang-fi* (*Polyglot Dictionary of K'ien-lung*, Ch. 22, p. 64), the history of which I hope to trace some day in another place. — Tibetan has also a term for a burning-lens, — *me žel* ("fire crystal") or *rey hyed žel* ("burning crystal"); likewise Lepcha *mi ler* or *ler mi* (MAINWARING-GREINWEDER, *Dictionary of the Lepcha Language*, pp. 285, 484). According to H. VON SCHLAGINTWEIT (*Reisen in Indien und Vorderasien*, Vol. II, pp. 201, 302) burning-glasses imported from China are widely used in Tibet for fire-making; he himself witnessed in Sikkim the employment of such glasses directed on tinder.

a taper, termed the "ignition candle," which he lights at the celestial fire, while reciting a prayer-formula. The king then hands the ignition candle to the head priest, who applies its flame to the *thien shui*. During this performance the attendant chapter of monks rehearses a prayer. The torch is kept lighted in a special white gauze frame. A solemn ceremony takes place also at the time when it is extinguished.¹

Ice-Lenses. — Everybody knows that also a flake of ice, if cut into the form of a convex lens, may serve as a burning-glass with good effect. The Chinese have had this experience; and one of their books, the *Po wu chi* 博物志, a collection of notes on remarkable objects and occurrences, has it on record that "fire may be obtained by cutting a piece of ice into circular shape, holding it in the direction of the sun, and placing mugwort (*Artemisia*) behind the ice, so that it falls within the shadow."² It should be added that this notice figures under the title "juggler's art" 戲術; and it is from this class of performers, who swallow fire and swords, that the demonstration of such an experiment might be expected. Nevertheless, Li Shi-chên found it advisable to insert this notice in his essay³ on the mugwort, as if it had ever been a common practice of physicians to apply the moxa to their patients by means of an ice-lens. This, however, remains open to doubt. Mugwort is said to have received the name "ice-terrace" (*ping-fai*) from the employment of ice-lenses. The authorship of the work above quoted is attributed to Chang Hua 張華, who lived from 232 to 300. If Chang Hua of the third century should really have written this

¹ After G. E. GEHRM, *The Tonsure Ceremony as performed in Siam*, p. 161 (Bangkok, 1893). — Regarding crystal lenses in Japan see GEHRM, *Produits de la nature japonaise et chinoise*, p. 243.

² 削冰令圓舉以向日以艾於後承其影則得火 (Ch. 4, p. 4 b; edition printed in Wu-ch'ang).

³ *T'ien ts'ao kang mu*, Ch. 15, p. 8.

passage, the case would indeed be notable in establishing the fact that four centuries prior to the first introduction of burning-lenses from Indian regions the latter were known in China as an apparently native idea. Indeed, this text has been accepted in this sense, and was marched forward by G. Schlegel¹ as a strong bulwark in his argumentation for the indigenous origin of burning-lenses in China; but this plea will melt away as easily as the bit of ice when its function as lens was over. Also Schlegel had access to WYLLIE's *Notes on Chinese Literature*, from which we learn (p. 192) that the work *Po wu chi*, originally drawn up by Chang Hua, was lost in the Sung period (960—1278); that the present book with that title was probably compiled at a later period on the basis of extracts contained in other publications; and that there are many quotations from it in the ancient literature which do not appear in the modern edition. There is, accordingly, no guaranty whatever that any text in this work, as it is now extant, goes back to the third century and originates from the hand of Chang Hua. The text in question is quoted by Lǐ Shi-chén from the *Pi yu* 埤雅, a dictionary compiled by Lu Tien 陸佃 (1042—1102), so that from this indication we may carry it to the latter part of the eleventh century. It is certainly far older than that; but it cannot have been penned by Chang Hua, and, at the very best, cannot date back farther than the first half of the seventh century, when burning-lenses first became known in China. The Annals of the T'ang Dynasty, as we noticed, record burning-lenses in the possession of the Lo-ch'a as an entirely novel affair, describing their use and effect, and this incontrovertibly proves that they were unknown in times previous. Neither do the T'ang

¹ *Uranographie chinoise*, p. 142; *Nederlandsch-Chineesch Woordenboek*, Vol. I, p. 674; and *T'oung Pao*, Vol. ix. 1898, p. 179. The allegation of Schlegel that lenses of ice were used before the invention of glass is pure invention, being contained neither in this nor in any other Chinese text.

authora assert that they were known at an earlier date (Yen Shiku, on the contrary, insists on their being imported "at present;" that is, in his own lifetime), nor is there any record in the historical annals relating to the third century to the effect that such lenses should have been in vogue at that period. Whoever reads with critical eyes the account now sailing under the false flag of the *Po ieu chi* will soon notice that in its style it is worded on the basis of the text of the Tang Annals, and also that it materially depends upon the latter, — materially, because it was only after, and in consequence of, the introduction of foreign crystal lenses, that the experiment with ice could have been conducted in China. This idea was not conceived by the Chinese as the result of a natural observation or optical study, which they never cultivated; but ice was resorted to as a makeshift, as a substitute for the costly rock-crystal, on the theory of their nature philosophy, that the latter is transformed ice: crystal and ice, being products of a like origin, were thought to be able to bring about the same effect.

CONCLUSIONS. — When we now attempt to reconstruct the general history of burning-lenses, the principal fact standing out is that China, despite the opposite contention of some enthusiasts, has not the shadow of a claim to their invention, but, on the contrary, admits her debt to Lo-ch'a and Champa; that means, to India. China received them from India in the same manner as mediæval Europe and the Arabs received them from Greece and Rome. The problem, therefore, crystallizes around the central point: In what reciprocal relation or obligation are India and Hellas? Hellas, at the outset, is entitled to the privilege of chronological priority, and

can point to the well-fixed date 423 B.C., when Aristophanes wrote his *Clouds*. At that time, we may assert positively, burning-lenses were unknown in India, for which we have merely a retrospective *terminus a quo* lying backward of the seventh century A.D. Negative evidence in this particular case is somewhat conclusive: for, with all their ideas of the sacredness of fire and its prominent position in religious worship, the ancient Hindu themselves would not have allowed such an excellent contrivance to escape, — a contrivance that would have brought the realization of their dreams of celestial fire. The fact remains that none of the Sanskrit rituals ever mention such an implement, which, for this reason, cannot have been of any significance in the culture-life of the nation. It is therefore highly improbable, nay, impossible, that the Hindu should have independently conceived the invention. Even if our conclusion, based on Chinese documents, that burning-lenses were employed in India prior to the seventh century, should be substantiated in the future by the efforts of Indian research, and, for example, be carried back to a few centuries earlier, this would hardly change our result fundamentally, or overthrow the impression that the use of such lenses belongs to the mediæval epoch of Indian history. There are good reasons for upholding this opinion and for connecting their introduction with the influence upon India of Hellenistic-Roman civilization. First, we may say negatively that it was not Assyria which transmitted the idea to India. In that case, we should justly expect that it would turn up there at a much earlier date, and occur simultaneously in ancient Persia; but Zoroastrian Persia, like Vedic India, lacks them entirely. This observation justifies us in concluding also that burning-lenses played a

very insignificant part, if any, in Mesopotamia; if they did, we should find them also in Greece at a much earlier date. Without pressing the question of the when and where of the original invention, we must be content at present to regard the Greeks as the people who, we know positively, made the first use of optical lenses. The second negative evidence that is impressed upon us is this, that Alexander's campaign cannot be made responsible for the transmission. It is needless to insist that the historians of Alexander are silent about it; coeval India is likewise so; and it is inconceivable that an idea, though Alexander's genius should have carried it into the borders of India, would have borne fruit on her soil only as late as the middle ages. The Arabs, as already observed, did not transfer it, either, to India. If we strictly adhere to our chronological result, we are clearly carried into the Gupta period, which, taken in a wide sense, extends from about 300 to 650 A.D., and which, particularly in the fourth and fifth centuries, was a time of exceptional intellectual activity in many fields,¹ in mathematics, astronomy, and medicine, all of which have received an appreciable stamp of Western influence.² Indeed, as emphasized by Smith, the eminent achievements of this period are mainly due to contact with foreign civilizations, both on the East and on the West, and the fact of India's intercourse with the Roman Empire is indisputable. The conquest of Mālwa and Surāshtra by Candragupta II Vikramāditya toward the close of the fourth century opened up ways of communication between Upper India and Western lands which

¹ V. A. SMITH, *Early History of India*, 3d ed., p. 304.

² See particularly A. WERNER, *Die Griechen in Indien* (*Sitzungsberichte Berliner Akademie*, 1890, pp. 921—925); G. N'ALYIELLA, *Ce que l'Inde doit à la Grèce*, pp. 95—119 (Paris, 1897); G. THIBAUT, *Indische Astronomie*, pp. 43, 70.

gave facilities for the reception of European ideas. It is accordingly a reasonable conclusion that burning-lenses were transmitted to India, not from Hellas, but from the Hellenistic Orient of the Roman Empire, in a period ranging between the fourth and sixth centuries, to be passed on to China in the beginning of the seventh century. The introduction of the burning-mirrors alluded to in the Bower Manuscript, in my opinion, falls within the same epoch, emanating from the same direction.

ADDITIONAL NOTES. — P. 202, note 3. The tree in question is the *pūrījāta* (see *Fan yi ming i lei*, Ch. 25, p. 27 b, ed. of Nanking).

P. 206, note. Compare also *lang-tang* 琅璫 and 銀鐺; an interesting notice on this word is contained in the *Ning hsi chai wai ta*, Ch. 7, p. 27 b (*Shen shou ko ts'ung shu*, Vol. 71).

The interesting study of Dr. M. W. de Visser (*Fire and Ignis Fatai in China and Japan*, reprint from *M.S.O.S.*, 1914, pp. 97—193) reached me only a short while ago when my manuscript was in the press. Dr. de Visser touches some questions dealt with on the preceding pages, though from a different point of view, but he accepts Schlegel's statements and the text of the *Po su chi* without criticism.

LES CORRESPONDANTS DE BERTIN,

Secrétaire d'État au XVIII^e siècle,

PAR

HENRI CORDIER. ¹⁾



VI.

ANTOINE COURT DE GÉBELIN.

Fils d'un pasteur protestant, né à la Tour d'Aigues, en Vivarais, qui exerçait son ministère dans le bas Languedoc, COURT DE GÉBELIN est né à Nîmes en 1725. Forcé de s'expatrier, pour cause de religion, il se retira à Lausanne avec sa famille. A 48 ans, il commença son grand ouvrage le *Monde Primitif* qui parut à Paris, en 9 vol. in-4, de 1773 ²⁾ à 1784. Il est mort le 10 Mai 1784.

I

Monsieur,

J'ai reçu dans le tems le 4^e volume des *Mémoires de la Chine* que vous eûtes la complaisance de m'envoyer pour M. HURON: Mais je n'ai point encore trouvé d'occasion pour le lui faire passer et j'attendois faute de mieux de le lui expédier avec mon prochain volume, ainsi que je lui ai fait parvenir une partie des précédents.

1) Voir *L'encyclopédie*, Mai, Octobre et Décembre 1913, Juillet 1914, Mars 1915.

2) *Monde Primitif*, analysé et comparé avec le monde moderne considéré dans son génie allégorique et dans les Allégories auxquelles conduisait ce génie; précédé du Plan général des diverses Parties qui composeront ce *Monde Primitif* avec des figures en taille-douce. Par M. Court de Gébelin, de la Société économique de Bernes, et de l'Acad. Royale de la Rochelle. A Paris, . . . M.DCC.LXXIII, in-4.

Je suis fâché de l'embaras où ce retard vous a mis et vous prie d'agréer les sentiments distingués avec lesquels je suis,

Monsieur,

Votre très-humble et très-obéissant serviteur,

GESSELIN.

3 Mars 1779. — L. a. s.

II

Monseigneur,

Un Rhume qui me retient depuis cinq ou six jours dans mon cabinet, m'a privé de l'honneur de vous rendre mes devoirs cette semaine, comme je me l'étois proposé: il ne m'a cependant pas empêché de refondre ma lettre pour la Chine d'après les diverses observations que vous avez eu la bonté de me faire. J'espère que vous la trouverez à peu près comme vous la desiriez. Je suis avec le plus respectueux et le plus inviolable attachement

Monseigneur,

Votre très-humble et très-obéissant serviteur,

COURT de GESSELIN.

13 de l'an 1780. — L. a. s.¹⁾

III

Monseigneur,

Je prends la liberté de vous adresser un Postscriptum ou 2^{de} lettre pour le Rév. P. AMOR sur un objet très intéressant et que vient de m'occasionner la lecture de la 57^e page du 5^e volume des *Mémoires de la Chine* que j'ai commencée de hier.

1) Mr. Champred. Faire partir, mais je crains qu'il n'ait pas vu ce que nous avons sur les Juifs du Ho-nan. M'en parler de nouveau à onze heures. — Note a. n. s. de Bertin.

Je vous serois très obligé, Monseigneur, si vous voulez bien appuyer vous-même cette lettre auprès du P. Amiot, d'autant qu'il ne lui en coûtera guère qu'une lettre à écrire ou à faire écrire.

Je suis avec un dévouement inviolable,

Monseigneur,

Votre très-humble et très-obéissant serviteur,

COURT DE GÉBELIN.

4^e de 80. — L. a. s. ¹)

IV

Extrait de la lettre de M. COURT de GÉBELIN à M. AMIOT du 1^{er} janvier 1780. ²)

Je vous dois aussi bien des remerciements pour le beau Monument du grand Yu, que j'ai fait coller aussitôt sur du papier et sur toile, afin de conserver le plus qu'il sera possible, un Monument aussi précieux. Je me propose même de le faire graver avec la permission de M. BERTIN afin de prévenir sa perte, et de le mettre sous les yeux des savans.

J'ai cherché dans la belle *Histoire de la Chine* par le P. DE HALDE et dans vos savans *Mémoires* ce qui pourrait être relatif à ce Monument: je ne sais si c'est par trop de précipitation, mais je n'en ai trouvé nulle part aucune mention.

1^e) Mr. Chompré. Il faut montrer à Mr. Gebelin ce que nous avons déjà sur cela:

1^e). Ce que nous avons demandé de la part des Juifs de Venise ou de Mr. de Villeison l'année dernière.

2^e). Ce qu'on nous en mande je crois cette année, sur d'anciennes questions par nous faites à ce sujet, et qui ne nous donne pas grande espérance dirigera mieux les éclaircissements qu'il peut désirer et en même temps il mettra Monsieur et Mr. l'Abbé Amyot au lieu de révérend Père. — Note a. n. s. de Bertin.

3^e) Monsieur Chompré à joindre au monument en question.

4^e). Cette lettre est restée en projet. Mr. Gebelin ne savoit pas en la projetant que nous avions la traduction du monument que nous luy avons communiqué depuis; mais ce projet de lettre est bon à garder et le joindre au monument. — Note a. n. s. de Bertin.

Ce qui m'a étonné c'est qu'ayant compté le nombre des figures dont il est composé, j'en ai trouvé 77. ni plus ni moins, et ce n'est pas faute de place qu'il n'y en a pas d'avantage, puisque la 6^e colonne n'en contient que 7. tandis que les 5 autres en contiennent 14. chacune.

Je n'ai pu et je ne puis m'empêcher d'admirer le rapport étonnant de ces 77 figures divisées en quatre colonnes de 14. plus une fraction de 7. qui réunie à la 5^e de 14 aussi forme une 5^e colonne de 21 figures; je ne puis, dis-je, m'empêcher d'admirer ce rapport étonnant avec un jeu connu en Europe composé également de 77 figures, subdivisées 4 couleurs, de 14 figures chacune, et en une 5^e composée de 21. atouts.

C'est le jeu qu'on appelle les *Tarots*, que vous pouvez connaître du moins du nom, et sur lequel je ne pus jeter les yeux, quand il me fut montré il y a trois ans par quelques uns de mes amis qui arrivaient d'Allemagne, sans y reconnaître à l'instant un jeu Egyptien calqué sur les connoissances philosophiques et théologiques des anciens Egyptiens et arrangé sur le fameux nombre de Sept.

L'ensemble de ce jeu appuyé sur les figures qu'il offre et par la valeur même du nom de ce jeu qui n'est nullement Européen, mais très beau et très significatif en Orient et qui n'a pu être l'ouvrage d'aucun Européen me conduisit à des conséquences très singulières sur l'antiquité des jeux de cartes, sur leur origine, sur la manière dont sont descendus de celui là tous nos jeux de cartes à commencer par les Espagnols avec les noms qu'ils donnent à chacune de leurs cartes.

Ces rapports incontestables, que je vais développer dans mon 8^e volume et qui étaient cependant tombés dans le plus grand

oubli dans cette Europe qui vante tant ses connaissances anciennes, prouveront à quel point on a perdu les traces de l'origine d'une multitude de choses, et que l'antiquité fut infiniment plus savante et plus éclairée que nous ne l'imaginons et que jusques aux jeux elle avait la sagesse de rapporter toute à l'instruction et à l'utilité des hommes.

Car tel fut en effet le but du jeu des *Tarots*: il offre la division politique et civile de la nation Egyptienne et un tableau parlant de la vie humaine depuis le moment de son existence jusques à la mort. Ainsi en comparant à ce jeu le Monument du grand Yu, je ne dégrade point celui-ci, je le relève au contraire en supposant que ce Monument avoit pour objet les connaissances les plus utiles pour la nation entière des Chinois.

Je ne veux pas dire non plus par là que ce Monument du grand Yu soit Egyptien; j'ai fait mes preuves sur la non descendance des Chinois de l'Egypte: mais il est très apparent que le Monument Chinois fut comme l'Egyptien fondé sur les propriétés du nombre septennaire, connu anciennement dans la Chine, liées également avec la civile. Peut-être les deux monuments ont-ils été calqués sur de pareils qui avaient pris naissance chez la mère commune des Chinois, des Egyptiens et de tous les Peuples.

Quant à deviner l'explication de chacune des figures sans aucune autre pièce de comparaison, je ne m'en vante et ne m'en suis jamais vanté, je ne me suis jamais donné pour devin, pas même pour deviner la valeur du moindre mot, de la moindre figure; mais purement et simplement pour un comparateur de mots et de monuments, d'un mot connu, d'un monument connu, je passe à un mot dont l'étimologie n'est pas connue, mais qui ne peut presque pas

m'échapper lorsque je suis appuyé sur deux bases, le physique du mot et sa signification.

Pour retrouver le sens d'un hiéroglyphe, j'ai également deux bases: 1°. la figure de ce hiéroglyphe; 2°. les diverses significations qu'on donne dans les langues primitives au nom de l'objet représenté par ce hiéroglyphe; par ce moyen, j'ai déjà trouvé le sens de divers hiéroglyphes très singuliers: par exemple celui du singe qui peint le tems et qui était sur les clepsydres Egyptiens.

Ce n'est en effet qu'en rapprochant ces hiéroglyphes de la nature et du langage qu'on pourra espérer d'en retrouver le sens, et lorsqu'on en aura déchiffré plusieurs, ils en feront trouver un plus grand nombre, mais pour cet effet, il faut rassembler des objets de comparaison de toute part, ces objets s'éclairant mutuellement mènent à des connoissances très-belles et qui seroient perdues ou introuvables sans cela.

V 1)

Mr. Chompré,

Je lui envoie la lettre de Mr. GAZELIN à Mr. AMIOT.

- 1° Je le prie de la lui reporter de ma part, en lui observant de lui oter *Le Révérend Père*, et de lui écrire *Monsieur*, puisqu'il est aujourd'hui *prêtre séculier*.
- 2° de lui apprendre que nous avons la traduction du monument du grand Yu, et lui dire pourquoy nous la lui avons pas d'abord communiquée avec ce que nous en mande Mr. Amiot.

1) Note a. non signée de Bertin.

- 3^o de luy observer que ce monument est à moy, mais je ne veux pas le reprendre s'il ne me fait l'amitié d'accepter le remboursement de ce qu'il luy en a conté, luy ajouter que si je puis je feray copier ce monument par un de nos peintres de la manufacture pour luy en faire présent.
- 4^o qu'à l'égard du Dictionnaire chinois, il les a à la Bibliothèque du Roy même le dernier *chino-tartare* et que j'en demande un à Mr. Amiot encore mieux que celui là, qui sçait que ce que j'ay nous encombre.
- 5^o que comme tout cela probablement luy fera changer sa lettre, je la luy remets.

NOTES ON THE RELATIONS AND TRADE OF CHINA WITH THE EASTERN ARCHIPELAGO AND THE COAST OF THE INDIAN OCEAN DURING THE FOURTEENTH CENTURY

PART II

BY

W. W. ROCKHILL.¹⁾

II.

Java and the Eastern Archipelago.

34 (1). *Tao i chih li*. 34. CHAO-WA (瓜哇). Java.

It is the kingdom of Shê-p'o (閩婆) of former times. The entrance (to the port) is protected by the Pa-i shan (門遮把逸山). All the governmental buildings are fine and imposing structures. The population is dense. They are the foremost of the Barbarians of the Eastern Seas.²⁾

According to ancient traditions the first king of the country came forth from a rock which was struck by lightning. He ordered

1) See *T'oung pao*, July 1914. March 1915.

2) Although the name Chao-wa was given to Java as a whole, the Chinese applied it more particularly to the north-eastern part of the island along and near the Surabaya and Madura Straits and which was under the rule of Majapahit, for it was with this empire that the Chinese of the Yüan period had established closest relations, as we have seen from the references thereto quoted previously from the *Filan shih*. See G. P. Roussier in *Encyclopédie van Nederlandsch-Indië*, IV, 383—393, has some very interesting remarks on Ma Huan's and Fei Hsin's description of Java.

The entrance to which Wang refers was very probably at the mouth of the Surabaya river. As to the Pa-i shan (or island of Pa-i) it may have been the round flat on which at a little later date the Chinese founded the village or town of Sia-ta'nn or Hsin-ta'nn referred to by Ma Huan and Fei Hsin.

his daughters and sons (女子) to be chiefs to extend his rule (爲酉以長之).¹⁾

The fields are fertile, the land level and producing rice in such abundance that there is a surplus to export to other countries.

The people are not given to thieving; they will not even pick up on the roads what has fallen there. They are commonly spoken of as "the peaceful Shē-p'o people" (太平閩婆者).

As to their customs, the people do up their hair in a knot behind, and wrap *ta pu* (打布) around them.²⁾ Only the chiefs let their hair hang loose.

During the *ta-tō* period (of the Yüan, i. e., 1297–1307) I-hei-mi-shih (亦黑迷失) and the Ping-chang (chéng-shih) Shih Pi and Kao Hsing (平章[政事]史弼高興) went together to this country and ordered it to make its submission (to China) and send tribute, to build yaméns and establish law, arrange military posts for the transmission of official despatches, and to see that the laws concerning the salt gabelle and the use of (Chinese) copper cash were observed.³⁾

Their custom is to cast coins of a mixture of silver, tin, lead and copper. They are of the size of a section of a small conch shell (? 如螺甲大). They are called "silver coins", and are used in business transactions in exchange for (Chinese) copper cash.⁴⁾

1) Cf. the more detailed narrative of this event given in subsequent pages by Ma Huan and Fei Hsin. It evidently refers to the conquest of Java by Adi or Aji Saka (A.D. 78) from which dates the Javanese era, and to his fights with the rakahas (*rakshas*), particularly with Dewāta Chéngkar. See Raffles, *History of Java*, II, 71.

2) Chao Ju-kua (Ma-i), mentions *ta pu* (達布) among the products of the Philippines. Is it the same fabric?

3) This expedition took place during the *shih-yüan* period, in 1293, as we have seen in a preceding page.

4) On the alloyed coins of Java, see Hirth and Rockhill, *op. sup. cit.*, 78. It is interesting to note that at the present day Chinese copper cash are still the current medium of exchange in certain of the islands of the Netherlands Indies, as Bali and Lombok. See G. Vissering, *On Chinese Currency*, (1912), 99.

The country produces bay salt (青鹽). They sun-dry pepper of which every year ten thousand catties of the first quality and strength are prepared. It also produces coloured cotton prints and parrots of the *pan-ying-tsu* variety (半鸚鵡之類). All the drugs (procured here) come from other countries.

The goods used (by the Chinese) in trading there are beads, gold, silver, blue satins (青緞), coloured taffetas, blue and white porcelain cups, iron-ware and the like.

Subordinate to (Chao-wa, 次) is Wu-lun (巫崙), Hsi-ling (希苓, Céram?), San-ta-pan (三打板), Ki-tan (吉丹), Sun-la (孫刺). These islands have no rare products, so they are only noted here.¹⁾

1) Wu-lun is probably the same as the Niu-lun (牛論) or Ku-lun (故論) which the *Chia fan chih* (13th) says was one of the piratical dependencies of So-ki-tan (Java). I don't know where to locate it. G. P. Rouffaer, *op. sup. cit.*, IV, 376, 385, suggests Gorong or Goram, an island ESE of Ceram. A. R. Wallace, *Malay Archipelago*, 370-376, says the Goram people are a race of traders.

In the same list of the *Chia fan chih* mention is made of Hsi-ning (禧寧), Su-ki-tan (蘇吉丹), Sun-to (孫拖) and Tung-ta-pan (東打板). These are clearly the Hsi-ling, Ki-tan, Sun-la and San-ta-pan of Wang's list. Hsi-ling may be Ceram (the Moluccas were conquered by Majapahit), Tung-ta-pan may be "Eastern" Tapan (or Tu-pan), (Su-ki-tan) was probably in S.W. Borneo, and Sun-la is a clerical error for Sun-to (or ta). It is true that in another passage (on Chung-kin-la) our author refers to Tuban as Tu-ping (杜瓶), but he is not as a general thing very particular in his transcriptions of foreign names.

A. Marre, *Madjapahit et Tchampa*, 93, 94, says that "the Javanese empire of Majapahit extended, when at its apogee, from the southern extremity of the Malay Peninsula to the Molucca archipelago and probably to the Philippines. It comprised a part of Borneo, and exercised rights of sovereignty on Champa, that is to say on the countries of Cochin-China and Kamboja, at present under French protectorate."

The *Han shiao ta chih* (華僑雜誌) or *Chinese Overseas Magazines*, a periodical started in Shanghai in 1919, has in its three first numbers an elaborate and most interesting study of Chinese relations with Java and the Archipelago generally. Although much in it is derived from the Dynastic Histories and other well-known works, there is a large amount of original information, due possibly to Chinese records and traditions preserved among the Chinese of the Straits and Java. Unfortunately we are left in the dark on this question. I have not made use of this study so as not to enlarge beyond measure the present work.

34 (2). *Ying yai shêng lan*. 2. CHAO-WA (瓜哇). Java.

It is the Shê-p'o (閩婆) of olden times. This kingdom has four (towns) all without walls or suburbs. The first come to is Tu-pan (杜板), the next Sên-is'un (廝村), the next Su-lu-ma-i (蘇魯馬益, Surabaya), the next Man-chih-pa-i (滿者伯夷, Majapahit) which is the capital.¹⁾

The royal palace on all four sides has a brick wall over thirty feet high and is over three or four *li* square. The gates and buildings are very impressive. The rooms are forty feet high, the floors are of boards covered with ornamented mats made of rattan on which they sit cross-legged. The roofs are of hard wood.²⁾

The people live in a kind of rush (cottages) each of which has a brick store-house (cellar?); in these they sit and sleep.

The king lets his hair hang naturally; on the crown of his head he has a cap of gold leaves. Around his breast is wound an embroidered (襖 嵌) silk scarf and his waist is bound with a piece of brocaded silk called a *ya-yao* (壓腰, "waist band"). At his waist he wears a short dagger called a *pu-la* (不刺).³⁾ He goes bare-footed. He rides either on an elephant or in an ox cart.

Among the people the men wear the hair naturally, the women do theirs up in a knot. They have an upper garment and below a kerchief (*i. e.*, sarong). All the men carry a dagger at their waists; whether old or young, rich or poor, all carry a dagger made of damascened steel (雪花色鎖鐵), the handle ornamented

1) Cf. Gronsveldt, *Notes*, 43—53. According to *Tung hai kang N'ao*, 3, 4, Sên-is'un also written 廝村 is the same as Hsin is'un (新村). It is Germik on the Surabaya Strait. See *infra*, p. 65.

2) Cf. what Friar Odoric says of the palace of the king of Java. *Cathay and the way thither* (Cordier's edit., Hakluyt Soc. Publ.), II, 154—155.

3) Gronsveldt, *op. sup. cit.*, 40, says *pu-la* represents probably *bodit*, a weapon between a sword and a knife. See G. P. Rouffaer, *op. sup. cit.*, IV, 396 and *infra*, 68.

with gold or with rhinoceros horn or ivory, and frequently very artistically made to represent a goblin's head.

When in a crowd if anyone strikes another's head (犯其首, *lit.*, "offends against his head"), or starts a brawl, the other strikes him with the dagger he carries in his belt.¹⁾ If he dies from the wound, then (the other) conceals himself for three days when he is free from crime, but if he is caught in the act, then forthwith he is stabbed.

They have no punishment by flogging; regardless of the degree of gravity of the offence, the criminal is tied up with a rattan and stabbed to death, so it is not strange if butchering is going on continually.

In trading they use Chinese copper cash.²⁾

Tu-pan (杜板) or Tu-pan (賭班, Tuban) is the name of a country. There are all told over a thousand families ruled by two chiefs. Among the people there are many from Kuang-tung and Chang-chou (in Fu-kien).

On an islet of the sea there is a little pond; the water is sweet, clear, and drinkable; it is known as *shêng shui* (or "holy water" 聖水). Tradition says that when Shih-Pi and Kao-Hsing, generals of the Yüan, attacked Shê-p'o, for a month they were unable to make a landing. The troops were worn out and very thirsty. Then the two generals secretly prayed, (and then) they set up a spear in the pool, when forthwith a spring began to flow and the army was saved.

1) Cf. *infra*, the parallel passage in the *Hsing-ch'ü's shêng-lan. Hui gang chao lung tien lu*, I, 2* (Chau-ch'ang) says in a footnote: "If any one by misadventure strikes another's head, a grudge is borne to the point of secretly compassing his death." Duarte Barbosa (Hakluyt Soc. edit.), 197, speaking of Java says: "If any person were to put his hand upon their head they would kill him." See also *Commentaries of Afonso Dalboquerque*, III, 88.

2) Cf. Hirth and Rockhill, *op. sup. cit.*, 78, 81, n. 16, and Linsebutea, I, 112 (Hakluyt Soc. edit.).

Continuing thence eastward half a day one comes to Säu-ts'un, (also) called Ko-erh-hai (草兒昔, Geresik).¹⁾ Anciently it was a mud flat. Chinese visited it and settled down there in numbers, when it was called Hein-ts'un (新村) or the "New Village". It counts over a thousand families and its chief is (or its chiefs are) from Kuang-tung. Foreign ships come here to trade, gold and precious and foreign things are in great abundance, and most of the inhabitants are rich.

Continuing southward by water for half a day one comes to the roadstead of Su-lu-ma-i (蘇魯馬益港, Surabaya). It is freshwater, shallow, and with a stoney bottom, scarcely deep enough for small skiffs. After some twenty *li* one finally reaches Su-li-ma-i, also called Su-erh-pa-ya (蘇兒把牙), where there are all told over a thousand families. There is a chief, and Chinese, among the population.

In the bay there is a large, flat island with dense forest growth; myriads of long tailed monkeys live a short distance off in it. These monkeys are called *hu-sun* (胡孫). An old monkey is chief, and an old native woman whom he has carried off lives with him. People of the country who wish to have progeny set out samshu and viands as an offering to the old monkey. If he eats some of it the rest is scrambled for by the band. When they have finished, he (*i. e.*, the old monkey) chooses a male and a female monkey to fondle each other (交), and after a little while the people who want progeny go back home and (the woman) inevitably becomes with child.²⁾

1) Tuban and Geresik or Grisee are on the Surabaya Strait, the latter is 10 miles south of the mouth of the Solo river, Tuban is a little to the north of it. Geresik is still a place of considerable trade and frequented by coasting vessels, and Tuban has also some local importance.

The *Tsuan shih* calls Tuban, Tu-ma-pan (杜馬班). The *Chia fan shih* calls Tuban Ta-pan (打板). See also *infra*, 37 (1).

2) Cf. Hirth and Rockhill, *op. sup. cit.*, 77.

Continuing by water eighty *li* one comes to a trading place (埠頭) called Chang-ku (漳沽). Going ashore (here) and travelling by land south-westward for half a day one arrives at Manchih-pa-i, the capital. There are (here) approximately two to three hundred families, and seven or eight high officials (總領) assist the king.¹⁾

The climate is constantly as hot as in summer; rice matures twice a year. They have no couches on which to sit and sleep, nor chopsticks, nor spoons for taking up their food. They are continually chewing betel-nut. When they prepare food, after moistening it thoroughly with butter (when) in the dish, they spit the piece of betel-nut out of their mouths, take a handful out of the dish in front of them and eat it. After finishing they drink water.

They offer their guests betel-nut.

There are three classes of people; the first is that of the western foreigners (*i. e.*, Musulmans), who coming here to trade, have remained permanently. In their clothing and food they are refined and clean. Another class is that of the Chinese, such as people from Kuang-tang, Chang-chou, and Ch'fian-chou, who have come here to live. In their food they are very particular; they follow in everything the Moslim faith, its fasts and its penances.

Then there are those whose complexions is very dark with monkey heads and bare legs, who are followers of the devil doctrine (鬼道) what the Buddha called "a devil country." They are the natives (early aborigines). Their food is coarse and nasty; they eat snakes, ants, insects, and earthworms, scorching them only slightly in the fire, and that is all. They are like dogs, stopping not even at excrements for food.

1) Groeneveldt, *op. sup. cit.*, 48, says Chang-ku may be the present Changkir, *Tung Ai yang P'ao*, 3, 4*, mentions a Chang-ku shan. The name of *Mayapahit* is written 麻喏巴歇 in *Yüan shih* (210, 12*, 13).

Tradition says that anciently the devil, the Evil one, (鬼子魔王) with blue cheeks, red skin, and dark red hair on his temples, cohabited with a *wang-hsiang* (罔象, goblin) and they had over an hundred children who fed on human beings. Suddenly one day lightning struck a rock and a man came forth whom all the people chose as their ruler, whereupon he led soldiers to drive out the *wang-hsiang* and the devil, after which the people enjoyed peace.

In their habits they esteem bravery. Every year they arrange a "bamboo-spear feast" which begins in winter in the tenth moon. The king and his wives go out to see it, husband and wives each riding in a pagoda (pointed top?) cart (塔車), the wife (or wives) before, the husband behind. (These) carts are over ten feet high and on the four sides of the body are windows; they are drawn by horses. At the place of the fête they make an arena. (The men) are drawn up in ranks facing each other, each holding a bamboo spear, as hard as iron. Those who enter the arena bring their wives with them. The wives bear a three foot (stick?) which they hold with both hands. When (the men) strike at each other (the wives) say "*na-la*" (相格曰那刺). When they have finished fighting, for him who is wounded so that he dies, the king sends the victor to get a tube of gold dust to make amends, and for the support of the widow, and with that it ends.¹⁾

In all marriages the man goes to the family of the woman and having drunk the wedding cup (? 合巹) after five days he takes the bride home to the sound of copper drums and the blowing of

1) Cf. *Tung hai yang k'ao*, 3, 1^o where a paraphrase of Ma Huan's story is given, taken from the *Fang yü shing lü* (方輿勝略). It confirms Groeneveldt's explanation of the words *na la* (Javanese *larak* "to draw back". It says that when the men set-to to fight, the wife of each one separates them with the short piece of wood she carries, crying out *na la, na la*, "na which (the combatants) draw back (則退)".

pipes of cocoa-nut, and accompanied by a great crowd with swords and bucklers. Then the bride, the upper part of her body bare, with hair hanging down her back, and bare-footed, wraps around her a brocaded silk kerchief, puts on her head gold beads and other rich ornaments, and adorns herself in every possible way. The neighbours of the groom help also with betel-nut, and by decorating a boat with flowering and other plants. After feasting for several days they scatter.

As to their burials, when one is at the point of death, the young people of the family ask him his will (遺命), whether he wishes to be buried in the water, or cremated, or buried in the bellies of dogs. Then they take the corpse to the sea-shore, they let dogs eat it, and whether they have picked (the skeleton) clean or not then in accordance with (the deceased's) will they throw the remains into the water, and with that it is ended.

Cremation is even more barbarous than water burial, for the favorite wives take an oath (to die) with their lords, and so they accompany the corpse beautifully adorned and making lamentations. After a while when the bones have been burnt and the fire is blazing they jump into the flames and die.¹⁾

Among the people the wealthy use in trading old copper cash of China. In writing they do not use paper but incise their writing, which is in the *so-li* character (鎖俚字) on kajang leaves.²⁾

(In this country) twenty *liang* (兩, taels) make one *chün* (斤, catty), sixteen *sh'ien* (錢, mace) make one tael. Four *ku-pang* (姑邦, Javanese *kubana*) make one mace. Each (*ku*-) *pang* is (equal to) two *fên* (分), one *li* (釐) eight *hao* (毫), seven *ssü* (絲), five *hu* (忽) Chinese weight.

1) *T'ang shu*, 222, 4, says that in certain parts of Java (Ho-ling, 訶陵) they put gold in the mouth of the corpse, and on its hands and feet rings and burnt it with camphor of divers kinds and aromatic woods.

2) *i. e.*, in an alphabet derived from Chola or the Coromandel coast.

They cut a bamboo into a peck measure. A peck is (called) a *ku-la* (姑刺, Javanese *kulak*), it is equal to one *shêng* (升) eight *ko* (合) Chinese. Their bushel measure is (called) *nai-lí* (捺黎, Javanese *nalih*), it equals eight pecks (of the country) or one bushel, four pecks, four *ko*, Chinese.¹⁾

On the full of the new moon some twenty or thirty native women of an age form a band. When the moon has set they tie their arms together (lock arms) and go about the neighbourhood, following every-where the leader of their rustic songs, passing by the doors of the gentry and their well-to-do kin who make them presents of money.

There are (people who) unroll pictures and give explanations about them to those seated around and listening, and so strongly can they move them that they make those seated there laugh or cry.

The people praise highly Chinese decorated porcelain-ware; also musk, flowered taffetas, and silk gauzes (綺羅).

The country produces white sesamum, green beans (綠豆), sapan-wood, diamonds (金剛子), white sandal-wood, nutmegs, shells of turtles, tortoise-shell, parrots, of which there are green, red, and five-coloured kinds, paroquets (? 鸚哥) that speak. There are also the *chén-chu-chí* (珍珠鷄 *lit.*, "pearl fowl"), the "hanging down" or *tao-kua* bird (倒掛鳥 "love-bird of Formosa?), the variegated pigeon (綉鳩) the peacock, the "pearl sparrow" (珍珠雀), the green pigeon, and such like.

There are also wild deer, white apes and monkeys, sheep, swine, cattle, horses, fowls, and ducks.

As to fruit they have bananas, cocoa-nuts, sugar-cane, which generally grows to twenty or thirty feet, pomgranates, *lien-fang-mi* (? 蓮房蜜), persimmons, *lang-ch'a* (郎拔, Javanese *langsat*,

1) Wilkinson, *Malay Dictionary*, says 1 *nalih* is equal to 16 *gantang* — a *gantang* nowadays is about a gallon and a quarter, Cf. Rouffaer *op. sup. cit.*, IV 337.

the jack fruit) which are rather like the loquat (枇杷) and have white (or translucent) flesh.

34 (3). *Hsing ch'ao shêng lan*. 9. CHAO-WA (瓜哇).

Its old name was Shé-p'o (閩婆). With a favourable wind it can be reached from Chau-ch'êng in twenty days.¹⁾ The area of the country is broad, the population numerous. Their arms and fighting men excel any in the Eastern Seas.

There is an old tradition that Mara, the Evil one, having had relations with a blue faced, red bodied, violet haired goblin (罔象) they had over an hundred sons, who always fed on the flesh and blood of human beings. So what the Buddhist books call the "Kingdom of Demons" was this country. The people were nearly crushed out by them, when suddenly one day lightning burst open

1) *Hsi yang chao kang tien lu*, 1, 8* (Chao-wa) gives the following sailing directions for the voyage from Chan-ch'êng to the mouth of the Sarabaya rivers: "This kingdom of Chao-wa is about a thousand li south of Chan-ch'êng. Going from Chan-ch'êng one makes first Ling shan (Cape Sanho, Annam) where soundings give about 60 fathoms. Fifty watches more is Wu-sung hsü (蜈蚣之嶼 "Centipeda islet"). From the terminal reef of this islet going west five watches Ch'ang shan (昌山) is reached. Then ten watches eastward between Shé-lung island (蛇龍之山) and the islets of Kuan-yüan hsü (貫圓嶼) and Shuang hsü (雙嶼 "Double islets") one passes the island of Lo-wei (羅偉之山) where there are 15 fathoms soundings. Five watches thence one makes Chu hsü (竹嶼 "Bamboo islet"), after which in four watches one comes to Ki-lung islet (鷄籠之嶼) and in ten watches more one arrives at Kô-lan island (句欄之山, Geram island, Sambar Point, S.W. Borneo), where wood and water can be got. Thirty watches thence one comes to the island of Ki-li-mán (吉里門之山, Carimon Java), and five watches beyond is Hu-chiao shan (胡椒山, Pepper island). Three watches more and one arrives at the island of Na-ta'un (那參之山), from whence one comes to Tu-pai (杜板, Tulan) and five watches afterwards one arrives at Hsin-ta'un (新村, Gerbak) of Chao-wa, the capital of which is called Man-ché-pai (Majapahit)".

a stone in which a man was seated, and they all besought this strange being to become their sovereign. So he led them all against the goblins, and drove them out, put an end to the reign of terror, and once again there was peace and prosperity which has lasted to the present day. From old records preserved in this country (I learnt that this event took place during the Han dynasty, 1376 years before the present year, the 7th of Hsüan-tê of our Great Ming dynasty (A.D. 1432).¹⁾

The port in the mouth of the river where one lands and leaves (this country) is called Hsin-ts'un (or "New Village"). The people live all around; woven kajang leaves cover their dwellings and connect their shops so that they form a bazaar. This country is wealthy. There are pearls, silver, *ya-ku* stones, cats'-eyes, sapphires, rubies, *ch'ê-k'u*, agate, nutmegs (or cardamoms, 荳蔻), long peppers, put-chuck, indigo, everything that can be used, and traders are very numerous.

They have parrots and "parrot-peacocks" (鸚哥孔雀) which can be taught to understand speech and to sing songs. The "hanging-down bird" (倒掛鳥, the love bird of Formosa) has the body of a small bird (雀) but its plumage is variegated. During the day if sweet perfume is burnt it absorbs it and stores it away in its feathers and wings. In the night time it spreads out its tail and wings and hangs with its head down (倒掛) to let out the fragrance.

The people are given to acts of violence. Boys when they are but a year old are given a dagger which is called *pu-la-t'ou* (不

1) *Ming shih*, BQ-4, 16^a, says that in 1432 the memorial presented by the Javanese mission to the Emperor bore the date of the year 1376, the founding of their dynasty dating from the 1st year *yüan k'ang* of Hsüan-tê of the Han (i. e., B.C. 65). Groeneveldt, *Notes*, 33, n. 4, thinks there is perhaps an error in the text and that 1497 may have occurred in the original. I fancy that the compilers of the *Ming shih* read Fei Hsin's text carelessly. The Javan era began in A.D. 78.

刺頭).¹⁾ The handle is of gold or silver and carved ivory. All the men, old and young, poor and rich, carry one in their belt. If they get into a brawl and draw their daggers and one of them is killed, the other keeps out of sight; after three days it is all over.

The men have monkey heads, naked bodies, and wrap around their middles a piece of cotton. Those who can drink till they are drunk pride themselves on being heavy with spirits but light in property (能飲酗酒重財輕命).

The women wear on their necks strings of gold beads, and they stuff a roll of kajang leaves in holes (in the lobes) of their ears.

As to their mourning when a chief dies of old age, all his slave girls and concubines pledge themselves to each other to die. So when the day of the funeral has come about, the wives, concubines, and slave-girls, their heads covered with grasses and flowers, and draped in coloured stuffs (手巾), follow the corpse to the sea-shore or to a deserted place, where they put it in a sandy spot convenient for the dogs; if they devour it clean, it is held to be good, but if they do not clean (the corpse) then they have songs of grief and lamentations. (After this) they pile up fire-wood beside the corpse and all the women, having sat on it for a long time, set fire to the pile and die in the flames, and the ceremony of being burnt with the dead is completed.

Su-lu-ma-i (蘇魯馬益, Surabaya) is the name of a place (in Java), the (principal) mercantile centre for all goods, ships, and grain.

In the estuary (of the Surabaya river) there are (on a island?) hundreds of *lu-sun* (獼猴, monkey). Tradition says that in the time of the Tang (dynasty in China) there were (on this island) some five hundred people, men and women, all cruel and evil

1) G. P. Roussier, *op. sup. cit.*, IV, 386, says *pu-la-fou* points to an original *tilledau*. Cf. *supra*, 61, where the form *pu-la* occurs.

doers. One day a buddhist monk came to this place for a fortune telling ceremony. This bonze (when he found out what they were) took water (in his mouth) and spirted it out and changed them all into apes (猿猴) leaving unchanged only an old woman. To the present day they preserve (her) old home (宅) and both natives and (Chinese) traders are in the habit of sacrificing (to her) with cooked rice, betel-nuts, flowers, fruits, meats, etc., and if they do not ill luck will certainly befall them.

Tu-pan (杜板) is the name of a place. On a shoal in the sea (海灘) there is a spring of clear, sweet, drinkable water; it is called the "Holy Water" (聖水). In the time of the Yüan, generals Shih Pi and Kao Haing when they were attacking this kingdom during the month they passed here before landing suffered by lack of water and food. So the two generals prayed to Heaven, saying: "We beg Heaven to grant that we may chastise the Barbarians. If Heaven grant this, may fresh water arise, if not then we die." With this they struck their spears into the briny sea, when a spring of sweet water rose up from the place where their spears had been, and all the army drew of it and drank. Then they said (to their troops): "Heaven grants us aid, let us attack with vigour!" So the troops were filled with ardor, with blood curdling shouts they dashed against the hundreds of thousands of Barbarians and routed them. Availing themselves of their victory they followed them up and made prisoners that they cooked and ate. So to the present day they say the Chinese eat people. After this they seized the sovereign, and finally, when his crime had been investigated, he was set at liberty and given the title of King of the kingdom of Chao-wa.

During our dynasty the Emperor T'ai-tsung-wên (*i. e.*, Yung-lo) sent as ambassadors the eunuch Chéng Ho and others to present to the king gifts in his name, when the King, the Queen, the

chiefs, and village headmen all received the Heavenly bounty. The sovereign sends continually missions to our court bearing articles of tribute.

35 (1). *Tuo i chih li*. 28. PA-CH'IER-NA-CHIEN (八節那間).

Pigirian (?Java).

Kan-i (甘邑) is near Hai-ling-fang (?海嶺方). The trees are sparse, the fields lean, suitable for raising millet and wheat (粟麥).¹⁾

The people are loose in their habits (尙邪); their customs are the same as those in Tao-li-chou in Hu-pei (湖北道澧州). Both sexes do up their hair in a chignon, throw over themselves a piece of white cotton stuff, and fasten around them a sarong of native cotton cloth.

Once each year, in the third moon, the people choose living beings to sacrifice to the devils as a peace offering in the hope that there will be no calamities and suffering (during the year).

The people boil sea-water to make salt. They have chiefs. The native products are *tan-pi* (單蓆),²⁾ chintzes, fast-coloured cotton stuffs and betel-nuts.

The goods used in trading (by the Chinese) are blue (China)

1) *Fusan shih*, 210, 12*, in the account of Shih Pi's expedition against Majapahit refers to the Pa-ch'ieh-chien (八節間), and Groeneveldt, *Notes*, 82, has identified it with the river Mas emptying into the bay of Surabaya and the village of Patjekan on its right bank nine miles from the sea. It seems that the Chinese name may be found in Pigirian, which is still applied to one of the branches of the river Mas, *Sailing Directory for the East Archipelago*, II, 126. See also *infra*, 72.

As to Kan-i and Hai-ling-fang, I have no explanation to give about them; I have not met with these names in any other book; these names may have applied to villages founded by Chinese.

2) I find no explanation of this term. In chap. 37 of his book (*infra*, 41 (1)) Wang refers to 靑皮單. Perhaps 單被, "a sheet" — as opposed to a cut and sewed garment — is the correct reading.

ware, red kino (紫鑽), gypsum (? 土粉 = 土礬), blue *sai pu* (青絲布), earthen-ware water jars and vases, iron-ware and such like.

36 (1). *Tao i chih li*. 45. P'u-p'ên¹⁾ (蒲奔). Madura(?)

It is on the sea-coast. The island is a mass of white rocks (山躑白石). It is unfit for agriculture, and the people count for food on other countries.

The climate has sudden changes from hot to slightly cold. The people are brave. Men and women are clear black in colour. The men let their hair hang naturally; the women do their up in a chignon and wear a white cotton sarong.

The people boil sea-water to make salt, and gather crab spawn to make *cha* (鮓, chutney). They build boats of boards and secure them with rattan slips, and caulk them with cotton. Though the hull is very weak they go in the roughest sea with only their wooden oars, and none have ever been wrecked. They have a ruler.

The native products comprise white rattans and *fou-lin* rattans (浮留藤 *lit.*, "floating creepers").

The goods used in trading are blue china-ware, common cups, Hainan cotton, iron-ware, big and small pots and jars, and such like.

1) The only other work known to me in which the name P'u-p'ên occurs is the *T'ao shih* (210, 12—13) where it evidently refers to Madura Strait. Whether the P'u-p'ên of our author was on Madura or an adjacent island, Bawean, for example, it is impossible to say.

T'ao shih in the passage referred to above says at the time of the Chinese expedition to Java (1292) general Shih Pi led his troops from Tu-ping-tsu (杜並足, *Tuban*?) to Jung-ya-la-kay (戎牙路港口) and entered the Pa-ch'ieh chieh or "river" (八節澗) near which in its upper reach is the palace of the king of Tu-ma-pun (杜馬班), and at its mouth it communicates with the Sea of P'u p'ên (蒲奔大海).

37 (1). *Tao i chih li*. 35. CHUNG-KA-LO (重迦羅).

Janggolo (Java).

To the east of Tu-ping (杜瓶, Tuban) is called Chung-ka-lo. The island is near the confines of Chao-wa (Java, Majapahit); between them is a high mountain which is very luxuriant; it is entirely covered with *yen-fu* trees (? 鹽敷樹) and *nan-mu* trees (楠樹).¹⁾

There is a cavern with three entrances leading through it from front to back, and which can easily hold a myriad or two (of people).

The country reaches to Shê-p'o (閩婆). The climate is hot, the customs of the people pure. Men and women twist up their hair in a knot. Their garment is a long shirt.

The native products are sheep, parrots, fine cotton chintze sheets, cocoa-nuts, cotton muslins (木棉花紗). The goods used in trading are trade silver (花銀),²⁾ flowered Hsian taffetas (花宣絹), different coloured cotton stuffs.

They boil sea-water to make salt, and ferment glutinous rice (秬) to make spirits. They have no chief, but the most worthy during the year governs them for the time being (統攝).

Secondary to them (次) come, at some days voyage by sea, a number of tribes, called Sun-t'o (孫陀), P'i-p'a (琵琶), Tan-chung (丹重), Fu-chiao (負嶠), and P'êng-li (彭里). As they do not occupy themselves cultivating the soil, but are given

1) *Chao-fan-chih*, 13: (So-ki-tan), says that east Ta-pia and continuous with Great Shê-p'o is called Jang-ya-lu (戎牙路). See Hirth and Rockhill, *op. sup. cit.*, 62, 65, 84, 86. Roussier, *op. sup. cit.*, IV, 339, 320 says Chung-ka-lo is the Panjala of the Javanese inscriptions. I am unable to identify the *yen-fu* tree; the *nan-mu* is usually identified with the *Mackia sonnerati*, Hamel., but here it is probably some other variety.

2) I assume that *hsia yin* is the same as the *hsia yin* (貨銀) used in *Chao-fan-chih*, see Hirth and Rockhill, *op. sup. cit.*, 83.

to piracy like the countries of Ki-t'o (吉陀) and A-chi (亞峙) trading junks do not go there.¹⁾

37 (2). *Hsing ch'a shêng lan*, 11. CHUNG-KA-LO (重迦羅).

This country is adjacent to Chao-wa (Java, Majapahit). It is a highland and very fertile.

In the interior there is a stone cave with three openings leading through it. It (this cave) can hold from ten to twenty thousand persons.²⁾

The products of the fields are similar to those of Chao-wa (i. e., Majapahit). The customs and usages are on the whole good.

Both men and women do their hair in a knot; on their bodies they wear a long shirt and wrap around their loins a cotton sarong (手巾).

They have no ruler; whoever is the most virtuous during the year becomes their ruler (for the next year).

They boil sea-water to make salt, and ferment glutinous rice to make spirits.

1) Sun-t'o is presumably Sunda, but as Pei Hsin writes the name Sun-t'o to it appears to me doubtful. P'i-p'a (Pei Hsin's P'i-p'a-t'o) may be the Pa-li (琶離) mentioned by Chao Ju-kua among the dependencies of Sa-ki-tan (Central Java), but this also is very doubtful. Tan-chung is more probably the Tan-chung-wa-lo of Chao which was in Borneo, Po-chiao (Pei Hsin has Yüan-chiao) and P'ing-li suggest nothing to me.

Ki-t'o is probably Kedah on the Malay Peninsula and A-chi seems to be the earliest use of the name Achah, elsewhere called Sa-mên-la-la.

2) Cf. Grünroldt, *op. sup. cit.*, 57. *Hsi yang chao tung fien lu*, 1, 11 (Chao-wa), says that this cave was called the Nan-shu i shih tung (楠樹一石洞) or "Cave of the nan-shu trees".

The name Sa-ki-tan (蘇吉丹) used by writers of the Sung period to designate that portion of Java which confused on Janggolo, is not used by any of the writers of the Yüan or early Ming period. Wang Ta-yün (40, Sa-mên-paag which may be Samhwa) gives the name of a cotton fabric as Sa-ki-tan cloth (斯吉丹布); this is the only passage in which the name occurs. *Tung tai yang t'au*, 4, 13, has a chapter on Sa-ki-chiang (思吉港).

Ling-yang usually means "antelope", but in the present case it must designate some kind of sheep or goat. Cf. *infra*, 45 (2) and 74 (2).

The products are antelopes (羚羊), parrots, tree-cotton, coconuts, cotton, and gauzes.

The goods used (in trading) are trade silver, and flowered light silks.

Some days journey by water from this place one comes to Sun-t'o-lo and Pi-pa-t'o (孫陀羅琵琶地), to Tan-chung (丹重), to Yuan-chiao (圓嶠), to P'êng-li (彭里). (The people of this place) do not till the soil, but are given to piracy like Ki-t'o (Kedah) and (A-)chi (吉陀[亞]峙 Acheh) and other countries; as a consequence but very few traders go there.

38 (1). *Tao i chih lic*. 26. TAN-MO (淡邇).¹⁾

A small bay leads up to it from the sea after some *li*. The land (山) is like an iron writing-brush (鐵筆 *i.e.*, rises in a peak), the waters of a lake encircle it (池邇) like a long snake.

The people live on the near by slope (or edge, 傍緣). The land is flat and good for rice of which they have more than enough.

The climate is hot. They are thrifty in their habits. Men and women do up their hair in a knot and wear a short white cotton shirt with a *chu pu* (竹布) sarong.

The people are mostly occupied with weaving. There are medicinal plants on the island with which they can cure with supernatural skill those who are suffering from syphilis (疵癘, *lit.*, "scabs and ulcers").

They boil sea-water to make salt and get their living by fishing with nets.

1) I am unable to locate this island, but from the reference to pepper and to the prevalence of syphilis, which Wang says in his chapter on Timor was peculiarly prevalent there, I have thought that it might be some island to the east or north east of Java, especially as Tung Tan-mo (Eastern Tan-mo?) appears to have been not far from Hsi-ling which in turn may be Ceram. *Chu pu* may have been a fabric made from some fiber, like that of the *Musa textilis* used in the Philippines.

The native products include pepper like that of Pa-tu-ma (八都馬).

The goods used in trading are yellow beads, *ki-lin* kernels (麒麟粒), *hsi-yang ssu-pu* (西洋絲布, muslin), common bowls, blue china-ware, copper caldrons, etc.

39 (1). *Tao i chih ho*. 68. TUNG TAN-MO (東淡邊).

(This island is met with when) going away from Kao-ch'ien (梟撻), in an open stretch (間, of the sea) some days voyage from Hsi-ling (希苓, Ceram?). The island is bare; the natives lazy. The fields rich in rice and beans, supplying the people plentifully.

The climate is hot. They till the soil with cattle. In the second moon they hull (the first?) rice and make cakes to eat; this they call "the reward of tillage" (報耕種).

Men and women do their hair in a knot and wear a sarong of Patan (八丹布, Jurfattan) cotton. They boil sea-water to make salt, and ferment cacao-nut juice to make spirits. They have a ruler.

The native products include pepper like that of Shê-p'o (Java), tortoise-shell, cotton, large betel-nuts.

The goods used in trading are silver, coloured cotton stuffs, copper caldrons, iron-ware, beads, etc.

40 (1). *Tao i chih ho*. 25. PA-TU-MA (八都馬).¹⁾

It is a bustling market, spread over a large area. The island is luxuriant, the cultivated soil small in extent. The people are energetic and have abundance of food.

1) There is nothing in the text that enables me to locate this place. It seems quite out of the question that the little island of Timan off the south-east coast of the Malay

The climate is hot, the usages simple. Men and women twist up their hair, have a blue cotton turban, and wrap around them a piece of Kan-mai cotton (甘埋布) as a sarong.

Their ruler watches over the peace of the country. The people are very fond of their offspring. If they lose one they bathe and fast, wail and cry; after half a month, on the day they bury it, they implore Sang Fo (桑佛) to guard them against evil actions.

Robbers' heads are exposed as a warning. Those who obey the native laws (遵蠻法者) are rewarded as an encouragement (to others). Their customs are gradually approaching perfect rectitude (理).

The native products include elephants' tusks, the heaviest of which weigh over an hundred catties, the lightest, seventy to eighty catties, and pepper like that of Shē-p'o (Java).

The goods used in trading are Southern and Northern silk, trade silver, dark red gold (赤金), copper, iron-ware, *ash pu* (絲布, muslin), straw gold (? 草金), satins, Tau-shan brocades (丹山錦), Shan-hung taffetas (山紅絹), alam, and such like things.

41 (1). *Tao i chih lio*, 37. WĒN-TAN (文誕). Banda.

The P'o-shan (潞山) is high. The water of the stream which flows around it is fresh (若淡). The soil is poor. The people make their food for the most of sage and cocoa-nuts.

Peninsula (supposed to be the Datumah of the Arabs of the ninth century (see Reinoud, *Relations*, 18) can be meant. The fact that this Pa-tu-ma had ivory and grew pepper disposes of that. The fact that the natives invoked Sang Fo (elsewhere called by Wang Sang-huang Fo) is of no assistance, as we find from him that this Buddha was worshipped in Chên-la (Kamboja) and on the south-western coast of India. See *infra*, 71 (1).

In a subsequent chapter (*Su-la*, *infra*, 52 (1)) occurs the term "Pa-tu-la cotton cloth". Perhaps this is the correct form of the name?

Tao i chih lio luang cheng, I, 10*, makes it out that Pa-tu-ma is the same as Ma-t'a-wan (馬他萬) in Burma, Martaban, I presume.

The climate is extremely hot. The usages are licentious. Men and women do up their hair in a coil; the upper part of their body is bare; they wrap around them a piece of black-cloth (青皮布)¹⁾ but in the day-time when the heat is terrible, they do not even use this cloth.

When the month for sowing comes and is bad for tilling and hoeing they fish and hunt, gather fuel and bring water. There is no danger from snakes or tigers in the hills. The dwellings have nothing to fear from robbers.

They boil sea-water to make salt, and ferment the juice of the cocoa-nut palm to make spirits.

The women weave cotton as their occupation. They have a ruler.

The native products include nut-megs, little black slaves (黑小厮), mace, small clove-bark (? 小丁皮).²⁾

The goods used in trading are watered damasks (水綾), *shu-pu* (muslin), cotton prints, black jars (烏瓶), musical instruments, blue porcelain-ware, and such like.

42 (1). *Tao i chih liu*. 48. KU-LI TI-MĒS (古里地悶). Timor.

It is north-east of (Chung)-ka-lo (加羅, Janggolo. The island has no other rare product but sandal-wood which is very abundant,

1) It is just possible that we should read 青絲布 blue (or black) muslin of the *Hai gang shu pu* variety, so frequently mentioned by Wang among the goods used in the islands.

2) These slaves may have been captured in southern Borneo. See *infra* what is said of the singing girls of Banjarmasin (Pa-nan-pa-hai). Cf. also Hirth and Rockhill, *op. sup. cit.*, 52.

Hai gang chao kang tien lu, I, 11* (Chao-wa) mentions *ting pi* (丁皮) among the products of Java. In another passage (22, 3*) it again mentions it among the articles of tribute from Siam. F. Porter Smith, *Contributions to Materia Medica of China*, 67, says the bark of the clove tree, somewhat thicker than cassia-bark is used (by the Chinese) in toothache and as a domestic remedy.

and which is bartered for (by the Chinese) with silver, iron, cups (of porcelain), *hai-yang sai pu* (cloth, 西洋絲布), and coloured taffetas. There are altogether twelve localities which are called ports (馬頭). There is a ruler. The soil is suitable for the raising of grain. The climate is irregular, hot in the daytime, cold at night.

The habits are terribly licentious. Men and women cut their hair and wear a short cotton shirt tied around with Chan-ch'eng cotton. The market prices of spirits and meat are reasonable.

The women are shameless. The chiefs of the tribe are gluttonous and fond of wine and lechery. Furthermore when sleeping they do not cover themselves, (so) those who get infected (by syphilis?) die for the most part. If one has been reckless while among the natives, when the ship gets back (to China) after all the hardships of the voyage, the disease breaks out and becomes virulent; it is called (in China) *yin-yang chiao-chiao* (陰陽交交, "confusion of the vital spirits"?) and he will certainly die.¹⁾

Formerly Wu Chai of Ch'ian (-chou? 泉之吳宅) sent a junk here to trade with over an hundred men on board. At the end (of their sojourn there) eight or nine-tenths of them were dead, and the others, who took the junk back, were weak and emaciated. When there was a favouring wind, or when the sea was calm and it was becoming dark, they were as madmen and they sang while they sculled the ship; in the middle of the night they would add blazing torches. They were like wandering ghosts and filled with

1) Chao Ju-koa appears to refer to Timor under the name of Tieu (底勿) and (底門), Hirth and Rockhill, *op. sup. cit.*, 83, 186. Relations between it and China during the Yuan and the early Ming cannot have been frequent. Pei Hsin adds absolutely nothing to Wang's account of it. No satisfactory explanation have been found for the name Ku-li which began with Wang Ta-yian so far as we know to be affixed to the old form Ti-mên. *Giri*, "mountain" has been suggested, but this seems to me quite unlikely.

Pisaletta in 1522 spoke of the prevalence of Syphilis in Timor, and A. R. Wallace, *Malay Archipelago*, 198, writing in 1861, or thereabout, refers to the immorality of Timor.

fear. What a terrible thing! Though the profits of trading in these lands were a thousand fold, what advantage is there?

Formerly Liu Tzu-hou (柳子厚)¹⁾ said: "Sea-trade sacrifices life for profit." (海賈以利易生). Who can say more on seeing such things?

42 (2). *Hsing ch'a shêng lan*. 13. KI-LI TI-MEN (吉里地悶). Timor.²⁾

This country lies to the east of Tung-kia-lo. It has luxuriant forests solely of sandal-wood. It produces nothing else. There are twelve trading ports. It has a ruler. The soil is rich, the crops luxuriant. The climate is hot in the daytime and cold at night.

Men and women cut their hair short. They wear a short shirt. They sleep at night without covering their bodies. When trading junks come here all the women come abroad to trade. Many of them (aboard the junks) contract infectious diseases (染疾病) from which eight or nine out of ten die; they are due to the malaria prevalent in this country and to syphilis (姪汚).

The goods used (by the Chinese in trading here) are gold, silver, iron-ware, and porcelain.

43 (1). *Tao i chih liu*. 47. WÂN-LAO-KU (文老古). Molucca Islands.

The I-chi (river, 益溪) flows through it; the country is low and narrow, the forest growth is luxuriant and dense.³⁾ The soil

1) The style of Liu Tsung-yüan (柳宗元) A.D. 773—819, one of the most celebrated poets of the T'ang period. See Giles, *Biograph. Dictionary*, 524, N^o. 1361.

2) Cf. Groeneveldt, *Notes*, 116. *Tung hai kang k'ao*, 4, 16, calls the island Ch'ü mên (遲悶).

3) Cf. Groeneveldt, *op. sup. cit.*, 117—119. In Cantonese *Mô-loo-ku*, Molucca, but what particular island of the group it is impossible to determine, probable Ternate. These islands were vaguely known to the Chinese several centuries before Wang's time. Cf. Hirth and Rockhill, *op. sup. cit.*, 84. *Tung hai kang k'ao*, 5, 11, calls them *Mei-lo-ku* (美洛居) or *Mi-liu-ko* (米六合).

is poor and paddy fields few. The climate is hot; the habits are lowly.

Men and women do up their hair in a knot and wrap around them a flowered piece of fiber cloth (竹布) as a sarong. They get all their sustenance from the inner part of the *hiang-sh'ih* tree (象齒樹).¹⁾

The people boil sea-water to make salt and make their food of *shu-hu* (沙湖, sago).

The native products include cloves. This tree covers the hills, though no very large number produce at the same time; in two or three years it reaches its maturity.

They have a ruler. They look forward each year to the arrival of Chinese junks to trade in their country. It happens that when five *mei-chi* chicks (梅雞雞 *lit.*, "plum-fowl chicks") are hatched they know that one Chinese boat will surely come, or when two chicks are hatched that two boats will surely come; in this way they can foretell (their coming), or get, as it were, response to a call.²⁾

The goods used in trading are silver, iron, *shui-ling* (水綾, *lit.*: "watered gauze"), *sei pu* (絲布), Wu-lun and Pa-ch'ieh-na-chien cottons;³⁾ native prints, ivory, beads, blue china-ware jars, and such like things.

1) *Hsiang-ch'ih*, literally "elephant's tooth", is evidently the sago palm. I have not met with this name elsewhere.

2) I have no explanation to offer as to the meaning of *mei-chi*, nor have I found any reference to a similar form of bird divination.

3) These Japanese Gosses are frequently mentioned by Wang; they appear to have staple goods in a large number of the localities he visited. Duarte Barbosa, *op. sup. cit.*, 192, refers to the use of Chinese cash and porcelain in the trade of the Moluccas.

Tao i ch'ih ho kuang ch'ang, I, 16*, says Wu-lao-ku is the Wu-nu-ku (勿奴孤) of Chao Ju-kua which he mentions among the dependencies of Java.

44 (1). *Tao t chih li*. 58. KOU-LAN SHAN (勾欄山).

Geram Island.

The hills are high and the forest growth luxuriant. The soil is poor and grain scarce. The climate is hot. They are given to hunting with the bow.

When the dynasty (of the Yuan) was first founded, the forces to attack She-p'o (Java) were driven by the wind to this island and the junks wrecked. One junk fortunately escaped with stores of nails and mortar (釘灰). Seeing that there was a great deal of timber on this island, they built some tens of junks here, everything from ribs (檣柁) to sails and bamboo poles (篙) were supplied (from the island). Over an hundred men who were ill from the long beating about in the storm and were unable to leave (with the rest of the expedition) were left on the island, and to-day the Chinese live mixed up with the native families.

Men and women do up their hair in a knot and wear a short shirt, winding around them Wu-lun cotton cloth (as a sarong).

The natural products are bears, leopards, deer and *chi* (麋) deer, skins and tortoise-shell.

The goods used in trading are grain, rice coloured taffetas (米色絹), blue cotton cloth, copper-ware, blue (China-)ware, etc.

44 (2). *Hsing ch'a shêng lan*. 8. KIAO-LAN SHAN (交欄山).¹⁾

With a favourable wind it can be reached from Ling shan (Cape Sahoi) in Chan-ch'êng (Annam) in ten days. The island is high and has dense forests of trees, creepers and bamboos: rudders,

1) Cf. Groenevaldt, *op. sup. cit.*, 78—79. He wrongly identifies it with Biliton; also *Yuan shih*, 210, 11—12. Geram or Golam island near Sambar Point, south-west Borneo. The larger island north of it is called Kumpul or Rendezvous island on the charts.

poles, masts, spars, bamboo-leaf, sails, (篷簑), can all be got here. When during the Yüan dynasty generals Kao Hsing and Shih Pi were leading some tens of thousands of soldiers in a large fleet of ships to the conquest of Java they met with bad weather on reaching Kiao-lan and many of their ships were damaged. So they landed on this island and built an hundred junks, after which they reduced Java to submission, made captive its ruler, and returned (to China).

Down to the present time some Chinese live mixed up with the natives. Over an hundred sick were left here at the time (of the expedition of Kao Hsing) and did not go back to China; these are their present day descendants.

The climate is constantly hot; there is but little rain; the people make their living by hunting.

Men and women do up their hair in a knot; they wear a short shirt, and fasten around them a piece of Wu-lun (巫崙, Goram?) cotton stuff.

The natural products are panthers, bears, deer skins, tortoise-shell. The goods used (in trading) are grain, coloured silk gauzes, blue cotton cloth, copper-ware, blue bowls.

45 (1). *Tao i chih liu*. 46. KIA-LI-MA-TA (假里馬打).

Karimata Island.

The island looks like a dark blue screen (山列翠屏). The approaches to it (關閘) are near a river (溪). The arable soil is poor; no grain is got from it. The climate is hot.

The habits of the people are treacherous. Men and women shave their heads. They make with fiber cloth (竹布) a kind of ring (桶樣) which they wear around their bodies, beside which they wrap around them a sarong. They have no modesty.

They gather bananas for food, and they boil sea-water to make salt, which they carry to other places to exchange for rice; one catty of salt is exchanged for a bushel of rice.

Formerly (前代) the native products included an outlandish variety of sheep, the largest of which could be ridden (可騎), making from fifty to sixty *li* a day. There is also brown tortoise-shell.

The goods used in trading (here by the Chinese) are brimstone, coral beads, Shē-p'o (Java) cloth, and such like things.

45 (2). *Hsing ch'a shêng lan*. 7. KIA-LI-MA-TA (假里馬打).¹⁾

The place face Kiao-lan shan (Geram island); it rises in the middle of the ocean. The island is like a dark blue screen (翠屏); mountain torrents irrigate the fields (引溪水溉田).

The crops are sparse. The climate is constantly hot. The people are poor. Men and women shave their hair and wear a short shirt of fiber cloth (竹布), wrapping around them a piece of cotton. They grow bananas and use the fruit in place of grain. They boil sea-water to make salt, and ferment sugar-cane to make spirits.

The products are tortoise-shell and antelopes (羚羊).

The goods used (in trading) are cotton stuffs from Chao-wa (Java) beads, chintzes, and rice.

46 (1). *Hsing ch'a shêng lan*. 14. MA-I-TUNG (麻逸凍).²⁾
(Blitung, Billiton Island).

This place is south-west of Kiao-lan (Geram) island in the middle of the ocean. (The coast line) hills are lofty, the land (in

1) Groeneveldt, *op. sup. cit.*, 115.

2) Fei Hsia had evidently never heard of Ma-i, though it was described by Chao Ju-kua and is unquestionably the name used by the Chinese during the late Sung period to designate a part at least of the Philippine Islands, so he thought Wang Ta-yüan had

the interior) level. A double branched brook (溪) waters all the villages. The climate is constantly hot. Both men and women do their hair in a knot, wear a long shirt, and wrap around them a piece of coloured cotton. The fields are fertile and produce twice as much as in other countries.

They esteem chastity. When a woman mourns for her husband she cuts off her hair, scratches her face, and refrains from food for seven days, lying beside her dead husband, many of them dying in reality. If they are not dead after seven days then their relatives urge them to take food and drink; if they are able to (withstand the fast) and revive, they may not remarry. Many widows jump into the flames and die when the time comes for cremating the husband.

They boil sea-water to make salt, and ferment sugar-cane to make spirits.

The products are tree-cotton, bees-wax, tortoise-shell, betel-nuts and chintzes.

The goods used (in trading) are copper caldrons, iron bars, coloured cotton and chintzes, etc.

47 (1). *Tao chihlio*. 31. P'o-si (浔泥). North-West Borneo, Brunei.¹⁾

The mass of the Lung shan (龍山礮礮) is to the right, the land stretches out in a fine plateau (友惟敵). Its high level

spoken under that name of Billiton island. So he has incorporated in this chapter the substance of all that the earlier writer had set down about Ma-i, adding only the first phrase which locates Billiton quite correctly.

Rouffaer, *op. sup. cit.*, IV, 389, misled by Groeneveldt's identification of Kian-lan with Billiton island, is naturally led to accept the identification of Ma-i-tung with Banka.

1) See also Groeneveldt, *op. sup. cit.*, 108—115. Cf. *Chu fan chih*, Hirth and Rockhill, *op. sup. cit.*, 155—167. *Hai yang chao lung tien lu*, I, 18 (P'o-si) says P'o-si had four departments (州). The people worshipped buddhist images and observed the practices of that religion. The trade centre (鎮) was called (by the Chinese after 1405) the island

fields (源田) are a source of profit to it. In the summer months it is rather cold, while in the winter it is rather warm.

They are lavish in their habits. Men and women do up their hair in a knot. They wrap around their loins a coloured stuff, and wear a shirt of gold brocade. They worship images of Buddhas (or gods, 佛像), and they also show the greatest respect and affection to Chinese; if one is drunk they will assist him to get back to his inn.

The people boil sea-water to make salt, and ferment glutinous rice to make spirits. They have a ruler.

The accountants of this country are exceptional, one man will manage all the book-keeping and expenditure and receipts without a fraction of an error.

The native products include laka-wood, beeswax, tortoise-shell, "plum-blossom" and "flake" camphor. The camphor tree is like the (Chinese) *shan* (杉, fir), or *kuei* (檜, juniper). They split it open and take out (the camphor crystals); they must fast and bathe before doing so.

The goods used in trading are pure silver, red gold, coloured satins, ivory boxes, iron-ware, etc.

of Chang-ning chen kuo (長甯鎮國). It states also that in 1371 the king of P'o-ni Ma-mo-sa (馬謨沙) sent a high official to the court of the Emperor Huang-wu with a memorial and presents. In the year 1405 the king was given the rank of a feudatory prince, and in 1408 the king, Ma-na-jo-ki-na (麻那惹加那), his consort and family came to court, returning to Borneo in 1414.

T'ung-hai yung I'ao, 5, 13', says that the people of Brunel (文萊) had a Holy mountain (聖山) which they held to be the greatest in the world. Can this be the same as the Lung shan of our text?

The statement made in the biography of Ch'eng Ho (*Ming shih*, 304) that he went on a mission to P'o-ni seems to be erroneous. At all events *Ming shih* (325, 1-4) in its notice on P'o-ni does not corroborate it. It says that in 1409 when the king of P'o-ni returned to his native land from China he was accompanied by the eunuch Chang Ch'ien (張謙). In 1411 Chang Ch'ien was sent a second time to Brunel. See also Grunau-veldt, *loc. sup. cit.*

49. (1). *Tao i chih li*. 22. TUNG-CHUNG-KU-LA (東冲古刺).¹⁾
Tanjongpura (?Borneo).

Steep and lofty mountains and a dense forest growth (mark this place. At their foot a nearby fresh water estuary forms its outside defense and its boundary.

The fields are rich and the crops luxuriant. The climate has sudden hot spells. It is slightly cooler when it rains.

The people are active (輕剽). Men and women cut their hair. They wrap a red kerchief around their heads. They wear a short yellow cotton shirt and wrap around them a piece of Yüeh-li (越里) cotton.

When a person dies they do not consume them by fire; they collect his bones and throw them in the sea. They call this *chung-chih-fa-shih* (?種植法使). After this the children go back to their business, while those who are especially filial fast for some months, and with that it is finished.

The people are not good (善). They boil sea-water to make salt and ferment the juice of the sugar-cane to make spirits. They have a ruler.

The native products include gold dust, beeswax, coarse laka-wood, turtles' shells, gharu-wood.

The goods used in trading are trade silver, salt, blue and white porcelain cups, water-jars of different sizes, blue satin, copper caldrons, and such like things.

1) For no better reason than the resemblance in the names, I have thought that this locality is the same as the Tan-jung-wa-lo (丹戎武羅) which Chao Jui-kua mentions among the dependences of Java. It was on the Pawan river, western Borneo, in about 110° 12' E. long.; 1° 45' S. lat., and is mentioned in records as a sort of capital among the Bornean places. See Rouffaer, *op. sup. cit.*, IV, 376, 383, 384, 390.

49 (1). *Tao i chih liö*. 85. PA-NAN-PA-HSI (巴南巴西).¹⁾
Banjermasin (Borneo).

This country is south of the Ta hsiang shan (大響山) and spreads out many tens of *li*. The soil is poor; they raise beans. The temperature has sudden changes to cold. The customs are treacherous. Men and women are small in size and black; their eyes are round, their ears long, their arms reach to below their knees. They wear but a simple *esü-jung* (絲絨, sarong?).

All the girls of this people who are pretty are taught by their parents from the age of seven to sing and dance. They can perform acrobatic feats, do impersonations (變態), and endless other uncommon acts. When they go to other countries and show their talents they are rewarded with small coins.

The native products include very fine cotton, which the traders buy with tin.

50 (1). *Tao i chih liö*. 4. MA-I (麻逸). Philippine islands.²⁾

The island (山) is flat and broad. It is watered by a double branched stream (溪). The soil is rich. The climate is rather hot.

1) If this is, as I think, Banjarmasin in southern Borneo, it is the earliest mention we have of this district. *Tung hai yang k'ao*, 4, 15, has Wen-lang-ma-shen (文郎馬神).

Can the word *esü-jung* be a transcription of Malay sarung? It does not occur elsewhere in this or any other work of this period.

Cf. Groeneveldt, *op. sup. cit.*, 106—108, for a translation of the description of Banjarmasin from *Ming shih*, 323, 14^b—15. It is mostly derived from *Tung hai yang k'ao*, *loc. sup. cit.*

2) Cf. *Ch'ü f'ang chih*, Hirth and Rockhill, *op. sup. cit.*, 159—162. It refers to the custom of the people building their dwellings along the banks of streams and not in villages. It refers at length to the honesty of the natives in their dealings with the Chinese traders.

The custom of suttee was evidently introduced into the island subsequent to Chao Ju-kua's time (1225), brought there, of course, from India or Java, otherwise the earlier writer would probably have noted it.

In their customs they are chaste and good. Both men and women do up their hair in a knot behind. They wear a blue cotton shirt.

When any woman mourns her husband, she shaves her hair and fasts for seven days, lying beside her husband. Most of them nearly die, but if, after seven days, they are not dead, their relatives urge them to eat. Should they get quite well they may not remarry during their whole lives. There are some even, who, to make manifest their wifely devotion, when the body of their dead husband has been consumed, get into the funeral pyre and die.

At the burial of a chief of renown they put to death two or three thousand slaves to bury with him.

The people boil sea-water to make salt and ferment treacle (糖水) to make spirits.

The native products are cotton (木棉), beeswax, tortoise-shell, betel-nuts and chintzes.

The goods used in trading are caldrons, pieces of iron, coloured cotton stuffs, red taffetas, ivory, sycee-shoes (錠) and the like.

The natives and the traders having agreed on prices, they let the former carry off the goods and later on they bring the amount of native products agreed upon. The traders trust them, for they never fail to keep their bargains.

51 (1). *Tao i chih tio*. 3. SAN TAO (三島). Philippine Islands.

It is to the east of Ta-ki-shan (大奇山).¹⁾ It is divided by a triple peak, and there are range upon range of mountains.

1) The San hsi (三嶼) of Chao Ju-kua were Kia-ma-yea (加麻延, Calamian), Pa-lao-yu (巴佬西, Palawan?) and Pa-ki-sung (巴吉弄, Busuanga?). The San-tao of our author seems to be a more restricted area, presumably the coast south of Cape Engano which may be his Ta-ki-shan. The San hsi of Chao were dependencies of Ma-i which probably included all of the northern and western portion of Luzon, if not all the island.

The people live along the roadsides.¹⁾ The soil is poor and the crops sparse. The climate is of varying degrees of heat. Among the males and females some are white. The men knot their hair on the tops of their heads; the women do it up in a chignon behind. They wear a single garment.

The men frequently get on board junks and come to Ch'ān-chou (in Fu-kien). When the brokers (經紀) there have got all the money out of their bags for ornaments for their persons, they go home, where their countrymen show them great honour at which even fathers and old men may not grumble, for it is a custom to show honour to those who come from China.

The people boil sea-water to make salt, and ferment sugar-cane juice to make liquor. They have a ruler (or chief).

The natural products are beeswax, cotton and cotton stuffs.

In trading with them use is made of copper beads, blue and white porcelain cups, small figured chintzes, pieces of iron, and the like.

Secondary to them (次) there is T'a-p'ei (答陪), Hsi-tan (海膽), Pa-nung-ki (巴弄吉), Pu-li-lao (蒲里佬), Tung-liu-li (東流里). They are only noted here as they have no remarkable products.²⁾

1) Chao Ju-kua states that in San hsi were "many lofty ridges, and ranges of cliffs which rise steep as the walls of a house.

2) T'a-p'ei defies identification. Hsi-tan is found already in Chao's book, it is the Atta, the Negrito aborigines of the Philippines. Pa-nung-ki must be an error for Pa-ki-nung; Pu-li-lao is Chao's P'u-li-lu (蒲里嚕, Palillo Island) and Tung liu-li is also in all likelihood an error for Tung Liu-hsin (東流新) and may mean "Eastern Luzon". See Hirth and Rockhill, *op. asp. cit.*, 160, where these names are wrongly divided; we should read Li kin and Tung Liu-hsin. In reference to what our author says of white coloured natives in the Philippines, I have been assured that such is the fact, I unfortunately cannot now recall on which island they have been found.

Tao i chih liu kuang ching, I, 1*, suggests that Pa-nung-ki is Pa-la-wan (巴拉灣), and that Chao Ju-kua's Kia-ma yon is Luzon, and his Pa-lao-yn is Solo.

52 (1). *Tao i chih lia*. 38. SU-LU (蘇祿). Sulu Archipelago.

This place has the Shih-i as a defense (石倚山爲堡障).¹⁾

The fields of the island of three years' cultivation are lean; they can grow millet and wheat. The people eat *sha-lu* (sago), fish, shrimps, and shell fish.

The climate is half hot. The customs are simple. Men and women cut their hair, wear a black turban, and a piece of chintze with a minute pattern tied around them.

They boil sea-water to make salt, and ferment the juice of the sugar-cane to make spirits. They earn a living by weaving *chu-pu* (竹布). They have a ruler.

The native products include laka-wood of middling quality, beeswax, tortoise-shell, and pearls. These Su-lu pearls are whiter and rounder than those got at Sha-li-pa-tan (Jorfattan), Ti-san-kiang, and other places. Their price is very high. The Chinese use them for head-ornaments.

When they are off-colour they are classed as "unassorted"

1) See also Groeneveldt, *op. sup. cit.*, 103—105. *Hai yang chao tung tien lu*, 1, 20 (Su-lu) says: "This country is in the Eastern Sea. Its trade centre (鎮) is the island of Shih-ch'i (石崎之山).... In 1417 its eastern raja Pa-to-ko pa-to-lu (巴都葛叭荅刺), its western raja Pa-to-ko pa-so-li (巴都葛叭蘇里), and its village raja (峒王) Pa-to-ko pa-to-yu (巴都葛巴刺卜) came with their wives, children and headmen to court with tribute. Again in 1420 there came a tribute mission from Su-lu. See Rouffaer, *op. sup. cit.*, IV, 391. He gives us the equivalents of these names Paduka Bohol, Paduka Suli and Paduka Prabu.

This is the earliest mention we have in Chinese of the Sulu islands. Duarte Barbosa, *op. sup. cit.*, 303, says of the Sulu (Solor) islands that "all round this island the Moors gather much seed pearl and fine pearls of perfect colour and not round".

Knox and Stedeman, *The Bank of the Pearl*, 214, 220, say that the Sulu islands' pearl reefs exist from Sibutu Pass to Basilan Strait, and roughly cover an estimated area of 15,000 square miles. The Sulu pearls are frequently large and of choice quality, but they are far more inclined to a yellowish tint than those from Australian waters, 1500 miles southward.

(絕品). There are some over an inch in diameter. The large pearls from this country fetch up to seven or eight hundred *tîng*. All below this are little pearls.

Pearls worth (重者) ten thousand taels and upwards, or worth from three or four hundred to a thousand taels, come from the countries of the Western Ocean and from Ti-san-kiang (near Ceylon): there are none here (in Su-lu).

The goods used in trading here are dark gold, trade silver, Pa-tu-la cotton cloth (八都刺布), blue beads, Chu(-chou-fu) china-ware, pieces of iron, and such like things.

(To be continued.)

MÉLANGES.

THREE TOKHARIAN BAGATELLES.

1. A Chinese Loan-Word in Tokharian A.

The word for "town" in the Indo-European language designated as Tokharian A is *rī*, with short or long vowel, capable of forming a plural *rī-s*. The word was pointed out by the first decipherers of the language, E. SARG and W. SIEGLING.¹ EMIL SMITH, in his very interesting analysis of the Tokharian vocabulary,² has justly observed that the word *rī* cannot satisfactorily be explained as coming from any Indo-European language, and that the alternative form with the lengthening of the vowel might speak in favor of a foreign origin,

¹ *Tocharisch, die Sprache der Indoskythen* (S.R.A.W., 1908, p. 923). I do not agree with these authors in regarding the language as that of the Indo-Scythians, but side with the conservative views expressed on the subject by A. MÜLLET (*Le Tocharien, Indogerm. Jahrbuch*, Vol. I, pp. 1—19). The ingenious supposition of F. W. K. MÜLLER (S.R.A.W., 1907, p. 920) still lacks the precise documentary evidence. The mere attestation of the fact that an Uigur colophon mentions the translation of a Buddhist work from an Indian language into Tokharian does not yet prove substantially that the fragments now styled Tokharian by way of convention really belong to that language, although this possibility may be admitted. The fact itself, that Buddhism and Buddhist literature existed among the Tokharians, certainly was not novel, but previously known. Tāranātha has preserved to us the names of four members of the Buddhist clergy in Tukhāra (Tibetan T'o-gar; with popular etymology also T'o-akar; *akar*, "white"), — viz., Ghoshaka; the Vaibhāṣika teacher Yūmaṇa (Tibetan Min-t'ān, "dwarf," mentioned also in *dPag lam* tjon karā, p. 83); the Ārya Vibhāṣya-vāda; and Dharmamitra, a teacher of the Viśaya (pp. 61, 78, 128 of the translation of SCHREINER), — and he twice refers to the Buddhism of Tukhāra (*ibid.*, pp. 33, 282). According to the Index of the Kanjur (ed. I. J. SCHMIDT, p. 78, No. 513), the original text of the Ārya-pratītya-samutpāda-hṛdaya-viśhidhāraṇi, from which the Tibetan translation was made, had been procured from Tukhāra by the Bhikṣu Nārāṇa (Nirvāṇa-ṛakṣita).

² *"Tocharisch" die neuentdeckte indogerm. Sprache Mittelasiens* (Völkensche-Selbstverlagschriften, 1910, No. 5, p. 15, Christiania, 1911).

as the long vowels, with the exception of *a*, rarely or hardly ever occur. Smith tentatively proposed a relationship of the Tokharian word to Tibetan *rū* ("quarter"), remarking that *ri* is the present and probably very ancient pronunciation of the latter. Without discussing the possibility of a contact between Tokharian and Tibetan, this suggestion is not convincing for two main reasons. The Tibetans are an essentially nomadic group of tribes, to which the notion of a town in its origin was entirely foreign; and it may be considered as certain that at the time when the Tokharian word was in existence the Tibetans had only a few towns. The Tang History relates that the inhabitants of Tibet roam about tending their herds, without having fixed settlements, while there are but a few walled places (其人或隨畜牧而不常厥居, 頗有城郭, *Kin Tung shu*, Ch. 196 A, p. 1 b). The Tibetan designation for a settlement of any size, though it consist of a single or several habitations, is *groñ* (written language also *groñ-k'yer*), but the word *ris* is never applied in this sense. It is even very far from signifying "quarter" unceremoniously, but means "part, division," usually in a figurative, not in a strictly territorial sense, and as a rule appears only as the second element of a compound. It therefore seems to me that the Tokharian word *ri* has no chance to claim its derivation from Tibetan *ris*. If, however, the former should really be a loan-word, it would appear more probable and reasonable to look to Chinese for assistance and to correlate the Tokharian word with Chinese 里 (Korean and Japanese *ri*), "a village comprising twenty-five or fifty families." The Chinese, as energetic colonizers in Central Asia, may well have exerted their influence upon the native population there in this direction.

This word thus far is the only Chinese loan-word discoverable in Tokharian; in going over its vocabulary at least I could find no others. As has justly been said by A. MEILLER, "Le tokharien n'est pas de ces langues qui sont fortement sujettes à l'emprunt; le vocabulaire est indigène pour la plus grande partie, autant qu'on puisse le voir par les faits déjà connus."

2. A Tokharian Loan-Word in Chinese.

The earliest (and still common) Chinese designation of asafoetida, ¹ *a-uai* 阿魏 (Japanese *agi*), traced by HIRTH to the Annals of the Sui Dynasty, ² in which it is mentioned as a product of the Kingdom of Ts'ao 漕, has not yet been explained. HIRTH observes that "*a-uai* is a foreign word, derived

¹ *Mémoires de la Société de Linguistique de Paris*, Vol. XVII, 1912, p. 202.

² Belonging to the genus *Ferula*, comprising some sixty species (see WATT, *Dictionary of the Economic Products of India*, Vol. III, pp. 328—337).

³ HIRTH and ROCKHILL, *China, Su-chu*, p. 225. The same text is also in *Pei shi*.

presumably from the Sanskrit or Persian name of the drug." This supposition, at the outset, is not very probable, as the Sanskrit and Persian terms have been traced in Chinese, and are indeed supplied by Hirth himself: Sanskrit *hīṅgu* is handed down in the Chinese transcriptions *hīng-kū* (**hīng-gu*) 興瞿, *hīng-yū* (*hīng-hū*) 形虞, and *hūn-kū* (**hūn-gū*) 薰渠,¹ and Persian *anguta(d)* انگوت or انگز, in Chinese *a-yū* (-tsie) (**a-ūū-zī*) 阿虞(截).²

Watters says with reference to the *Pên ts'ao kang mu* that *a-wei* is wrongly given as the Brāhman or Sanskrit name. This statement, however, is not made by Li Shi-chên, the author of the *Pên ts'ao* (Ch. 34, p. 21). Whereas he expressly notes that *a-yū* is a Persian term, and that *hīng-yū* is a word used in India, he fails to state from what language the word *a-wei* is derived. He indicates that it makes its first appearance in the *Pên ts'ao* of the T'ang period, and treats us to a wonderful stymology of the name: "The barbarians themselves style it *a*, expressing by this exclamation their horror at the abominable odor of this gum-resin."³ This is sufficient to warrant the conclusion that Li Shi-chên was ignorant of the language from which the word had sprung. He further imparts a Mongol word *ha-si-ni* 哈昔泥,⁴ and, what is more important, another transcription *yang-kuei* 央匱, not mentioned by Hirth or Watters. The Nirvāṇasūtra (*Yen p'an king* 涅槃經) is cited by him as the source for this word, and apparently the Mahāparinirvāṇasūtra is understood.⁵ *Yang-kuei*, in my opinion, is the same as *a-wei*; that is to say, the two are variants, representing transcriptions of an identical foreign prototype. This one we encounter in Tokharian B *añkwa*, first pointed out in the plural form *añkwa* by M. S. Lévi from one of the documents of

¹ HIRTH, *l. c.*, and *J.A.O.S.*, 1910, p. 15; WATTERS, *Essays on the Chinese Language*, p. 440.

² Also the Sanskrit loan-word *līḥ* occurs in Persian (L. LAMBERT, *Traité des simples*, Vol. I, p. 448). The Tibetan equivalent *līḥ-kas* must be explained from **līḥ-kas* (assimilated to *līḥ* by way of popular etymology: *līḥ*, "tree"), the latter from **līḥ-kas* (= Sanskrit *līḥga*), derived from a medieval vernacular of India.

夷人自稱曰阿此物極臭阿之所畏也 (wei 畏, pun upon wei 魏).

³ This word is not listed in the Mongol dictionaries of Kozlovski and Golstunski. It is nothing but a transcription of Ghazni or Ghazna 鶴悉那, the capital of Zabulistān (CHAVANNE, *Documents*, p. 166), which, according to Hsien T'ang, was the habitat of the plant (HIRTH, *l. c.*). According to Hsien (TAKAKURA's translation, p. 128), *añkwa* was abundant in the western portion of India.

⁴ This entire foreign nomenclature is ascribed to a poem of Fan Ch'eng-ta 范成大 (1126-93) in K'ang-hi's Dictionary (under 魏).

medical contents secured by the Mission Pelliot.¹ The element *yaŋ* 央, as is known, represents the syllable *aŋ* in the Chinese transcription of Sanskrit words; for instance, in *Āṅgulinālyā*. *Kuei* 匱 is North Chinese, as compared with an older articulation *kuai* or *kyai*, as still preserved in Cantonese; so that *yang-kuei* 央匱, read in the Tang period *aŋ-kwai*, is a phonetically exact transcription of a word corresponding to Tokharian *aŋkwa*. The same holds good for the transcription *a-wei*: a 阿 answers to Sanskrit *a* in the method of Buddhist transcriptions; the character *wei* 魏, as far as I know, has not yet been pointed out among the latter, but it had the ancient pronunciation *kuei* (鬼), *gwai*, and *ŋwai*, also *ŋui*. In this manner, also this mode of transcription leads back to Tokharian *aŋkwa*. From a phonetic point of view it is interesting to note that the pair *yang-kuei*—*a-wei* meets with an analogous counterpart in the name of the fig (*Ficus carica*) discussed by HIRTH,² *ying-ji* (**aŋ-it*) 映日 and *a-ji* (**a-ji*) 阿驛, both answering to a West-Asiatic name of the general type *anjir*; also in this case we have a double mode of transcription following similar lines, as in the previous instance, — the nasal after the initial vowel being expressed in the one form and omitted in the other, — so that we are entitled to the conclusion that the element a 阿 served also for the reproduction of the initial syllable *aŋ* or *an* in foreign words during the Tang period.

Another Tokharian term of botanical pharmacology is of great interest to us. This is *arivāḥ*, the designation of the myrobalan *Terminalia chebula*.³ First of all, we receive from it a satisfactory clue as to the mysterious Tibetan name *a-ru-ra* (corresponding in meaning to Sanskrit *haritaki*),⁴ which comes nearer to the Tokharian form than to any form of other languages known to us. Second, new light falls upon the Chinese transcription *ha-li-lo* 訶梨勒, first mentioned at the end of the third century in the *Nan fang ts'ao mu chuang*.⁵ This word has been brought together with Arabic *halīlag* خلیلج by T. WATERS,⁶ and with Aramaic *halīlag* ܠܝܠܓ by HIRTH.⁷ Persian *halīlah* علیله, also *baḥl* and *baḥla*, should be added. As the genus

¹ *Journal asiatique*, 1911, Juillet-Août, p. 138.

² *J.A.O.S.*, 1910, p. 20.

³ S. LÄVI, *l. c.*, p. 122.

⁴ H. LAUFER, *Betr. tibet. Med.*, pp. 56—67. GARCIA DE HORTO (*Aromatum Historia*, 1567, p. 132) gives as Indian popular name *araca*, and as medical term *aritiq*. Compare the Anglo-Indian word *hara-out*. *Haritaki* is transcribed in Chinese 訶梨恒雞. In Newari the name of the plant is *ṣakala*.

⁵ See BARTSCHNEIDER, *Bot. Sin.*, pt. 1, p. 38.

⁶ *Essays on the Chinese Language*, p. 355.

⁷ *J.A.O.S.*, 1910, p. 23.

Terminalia is indigenous to India, however,¹ it is manifest that the West-Asiatic names, in the same manner as the Chinese and Tibetan ones, are derived from a language of India, and that there is no necessity of resorting to Persian, Aramaic, or Arabic for an explanation of the Chinese name. The Tokharian form *arirāk* demonstrates that the prototype on which the derivations of West-Asiatic, Chinese, and Tibetan are based, indeed pre-existed somewhere on Indian soil. Chinese *-li-lo* answers to an ancient articulation *-li-luk* (*-ri-rak*), and very exactly reproduces Tokharian *-rirak*. The correctness of this point of view is corroborated by the word *pi-li-lo* 毗梨勒,² corresponding to Sanskrit *vibhitaka* and to Tibetan *ba-ru-ra* (*Terminalia balerica*). Again in this case the Chinese and Tibetan forms are not actually based on Sanskrit *vibhitaka*, with which they have only the first element in common; while *li-lo* (*ri-rak*) and *ru-ra* appear as the second element in the same fashion as in the type *ho-li-lo—u-ru-ra*. Consequently the Chinese and Tibetan forms allow us to presuppose the former existence of an Indo-Tokharian form **elirāk*, from which the two were derived, and which corresponded in sense to Sanskrit *vibhitaka*. The Tokharian term *lyphal* (Sanskrit *triphalā*, the "three myrobalan")³ shows that a name for this kind of myrobalan must have been known.

3. Tuman.

It is well known that in New Persian a word occurs for the designation of a "myriad," *tumān* or *tomān* تومن, which with insignificant phonetic modifications, is found also in the Turkish, Mongol, and Tungusian languages of inner Asia, and which passed, most probably from Turkish, also into Magyar (*tömeny*, *tömbny*, *tömen*; usually in the combination *tömbny-ezer*, "myriad, many thousands," *tömdetelen*, "innumerable").⁴ Whereas this word in popular use refers to an indefinite high number, the figure *x*, the supposition is

¹ The tree is abundant in northern India from Kumaon to Bengal and southward to the Deccan tablelands, and is found also in Ceylon, Burma, and the Malay Peninsula (see WATT, *l. c.*, Vol. VI, p. 4, pp. 24—26). In Ibn al-Balkh we meet the term "myrobalan of Kabul" البليخ الكابل (L. LEBLANC, *Traité des simples*, Vol. I, p. 131); hence our "chebul" (YULE and BURNELL, *Hobbes-Jobson*, p. 136).

² *P'ia ts'ao kang* 蘇恭, Ch. 31, p. 4. It is first mentioned under the Tang by Sü K'ung 蘇恭 and Lü Sün 李珣.

³ S. Lévi, *l. c.*, p. 126.

⁴ Compare Z. Gombocz, *Die bulgarisch-türkischen Lehnwörter in der ungarischen Sprache*, p. 131 (*Mémoires de la Société finno-ougrienne*, Vol. XXX, Helsinki, 1912). Gombocz, while pointing out the analogous Mongol, Turkish, and Tungusian forms, omits reference to Persian.

granted that in more exact manner of speech it should convey the notion of „ten thousand.” Marco Polo, who spoke the Persian language, is our witness of the fact that in his day *toman*, as he writes, covered this numerical category.¹ This is confirmed by the *Yüan ch'ao pi-shi* 元朝秘史 (Ch. 12, p. 45, ed. of Li Wen-t'ien 李文田), where the word appears in the two transcriptions *t'u-mien* 禿綿 (*tūmān*) and *t'u-man* 土滿 (*tuman*), both being said to be identical, and explained as the Mongol word expressing the numeral “ten thousand” (譯言萬數也) and also an indefinite quantity (猶言眾耳). The *Nidzi* vocabulary contained in the Ming edition of the *Hui i yi yü* likewise transcribes the *Nidzi* word *tuman* by means of the Chinese characters 土滿.² The farther removed from the original centre of its propagation, the more was it liable, naturally, to assume the air of a fantastic aggrandizement. When, in the summer of 1898, I was engaged in the study of two Tungusian dialects, Kwunki and Orodon, in the village Wal on the north-east coast of Sachalin Island, one of my Tungusian informants gave as the highest number known to him *tumä'*, and translated it into Russian by “million.”³

Various opinions have been expressed in explanation of the word in question. H. YULE⁴ has taken it for granted that it is a Mongol word. The striking fact could not escape the students of Altaic languages that, while the cardinal numbers from 1 to 10 are different in Turkish, Mongol, and Tungusian, a curious coincidence prevails in the designations for “thousand” (Turkish

¹ Ed. of YULE and COOPER, Vol. II, p. 102.

² W. GUNGE, *Sprache und Schrift der Jüden*, p. 35, No. 665. T. WATTERS (*Excursus on the Chinese Language*, p. 360) gives also the transcription *t'u-mien* 圖們.

³ This is the easternmost region to which the word has advanced. It is notable that it has been adopted only by Ural-Altaic, but not by any Paleo-Asiatic languages. The Yakaghir, for instance, have no words for numbers above a hundred, and used to express a hundred by “ten tens,” while they now employ *stoz* (from Russian etc) and also the Russian word for “thousand” in the form *tisile* (W. JOHNSON, *Grammar of the Yakaghir Language*, p. 115).

⁴ *Hobson-Jobson*, p. 928. Yule (*ibid.*) has asserted also that *toman* or *tumans*, in the sense of a certain coin or a certain sum of money (in Persia equal to ten sūbqins or crans, about 9.75 fr.; in India equal to \$ 15.50 [G. TEMPLER, *Glossary of Indian Terms*, p. 262]; among the Ossetians equal to 10.10 Rubels [W. MILLER, *Sprache der Osseten*, p. 109]; among the Turks equal to 2 Rubels [RABLOFF, *Wörterbuch*, Vol. III, col. 1518]), is identical with the word *taman* (“myriad”). On the authority of Yule, this has passed into our lexicography (for example, into the *Century Dictionary*). The number “ten thousand” is not visible in any of the instances given; and, in my opinion, the word in question is entirely distinct from the numeral *tuman*, and is derived from another root with a history of its own.

myñ, byñ, biñ; Mongol *mīngan*; Tungusian *mīhan*) and "ten thousand" (Codex cumanicus *tumen*; Old Chuvash *tūmān*; Orkhon inscriptions and Uigur *tūmān*; Djagatai *tāmān* تومان; ¹ Osmanli *tuman*; Mongol *tāmān* [Old Mongol, also *tuman*]; Nijōi *tuman*; Manchu *tonen*; Tungusian dialects *tumō, tūmo, tumē, tumūn*; Gold *tuma, tynū*). This state of affairs must naturally raise the suspicion that these two numeral series cannot be invoked as witnesses of linguistic relationship; that, on the contrary, they are derived from a foreign source. For this reason, W. SCHOTT² and J. HALÉVY,³ the two scholars who thus far have discussed the numerals of this group in the most ingenious manner,⁴ have advisedly passed over the series *tuman* in silence, actuated as they were by a correct feeling that the question is of a loan-word. G. J. RAMSTEDT, in a study of the numerals of the Altaic languages,⁵ justly observed that the word, both in Tungusian and in Turkish, is suspicious of a late derivation; but, although referring to Russian *тысяча* and *тысячи*, yet he thought that the original might perhaps be sought for in Indo-Chinese, pointing to Chinese *wan, man* ("ten thousand") and *ti-man* ("the ten-thousandth"). This unfortunate idea was accepted by Z. GONNOCZ (l. c.) who, like Ramstedt, overlooked the existence of the corresponding Persian word. Long before the discovery of Tokharian there was no doubt in my mind that *tuman* is neither Turkish nor Mongol (and least of all Chinese), but Indo-European; the Persian word and the interesting Slavic forms were sufficient to justify this opinion. M. E. BLOCHET, in a very interesting notice *Le nom des Turks dans l'Avesta*,⁶ makes an incidental reference to the word *tuman*, stating that "it is a very ancient borrowing from the Chinese *to-man* 多萬 ('the ten thousand')." I venture to doubt that a combination like this ever had any real existence in Chinese: it is not registered in the *P'ei wen yün fu* (Ch. 73); the notion "several or many myriads" is usually expressed by *shou wan* 數萬. The

¹ I. KURUS, in his edition of Seiziman Efendi's Djagatai-Osmanli Dictionary (p. 195), transcribes *tuman*.

² *Das Zahlwort in der turkischen Sprachengruppe* (Abh. B. d. W., 1858, pp. 1-29).

³ *L'étroite parenté des noms de nombre turco-ougriens* (Kéletai szemle, Vol. II, 1901, pp. 5-18, 91-108).

⁴ Despite the sweeping criticism of G. J. RAMSTEDT (*Journ. de la Soc. finno-ougrienne*, Vol. XXIV, 1907, p. 2), who, as far as tangible results are concerned, has not advanced much beyond his predecessors.

⁵ *L. c.*, p. 22.

⁶ *J.R.A.S.*, 1915, p. 307.

⁷ The opinion of M. Blochet is not quite clear to me. According to him, *tumša* is the older and original form (and this is also my opinion), and Persian *tumša* is intended to transcribe the Altaic word. What I do not comprehend is whether, in M. Blochet's view, the Persians or the Turks adopted the loan from the Chinese.

ancient pronunciation of *wen* was **ben*, and a Chinese *to-wen* borrowed by Turks during or before the Tang period would have resulted in **doban* or **duban*; whereas an ancient Turkish or Mongol *tu* or *tü*, according to the phonetic rules of transcription, would always presuppose an initial aspirate on the part of modern (that is, post-Tang) Chinese.¹ It is not necessary, however, to expatiate on this side of the argument; in the case of borrowings we have to look for motivation which is entirely lacking, and which is not produced by the supporters of the Chinese theory.

I had expected that A. MEILLET's conclusive study of the Tokharian numerals² had indeed brought us the ultimate solution of the principal issue of the problem, which in my opinion should be acceptable to all. M. MEILLET points out the numeral "ten thousand" (*tūmā* in Tokharian A, and *tumane*, *tmāne* in Tokharian B), and discusses at length the Indo-European character of this word.³ He strongly fortifies his opinion with an excellent etymology based on the comparative study of Indo-European philology, and emphasizes Persian *tumān* and Slavic *tūma*. It should be added that Tokharian A *tūmā* phonetically is on the same level as Russian *tom* (там or тма), which appears as early as the time of the Slavic-Church language and Old Russian. There are, farther, the following derivatives: *tēmnik* (темникъ) and *tmo-nolabnik* (тмоначальникъ), "commander of ten thousand;" *t'movyi* (тмемный), "relative to ten thousand;" *tmorit'syn* (тморитъсь) and *tmorit'no* (тморично), "many times, incessantly;" *tmoritnyi* (тморичный), *tmotamili* (тмотамилъ), and *tmo-t'omnyi* (тморѣмный), "innumerable."⁴ This fact bears out the close relationship of Tokharian to Slavic insisted upon by M. MEILLET, and positively uproots the idea that the Tokharian and Slavic words have been borrowed from Turkish. The word (this fact is now well assured) is of Indo-European origin; and the Turkish word owes its existence to an Indo-European language, not *vice versa*. It should certainly be borne in mind that *tuman* belongs to the medial, not the ancient, stage of Indo-European speech-development (in regard to Tokharian M. MEILLET observes, "C'est une langue de type indo-européen moyen, et non pas du type ancien"), and that the documentary evidence thus far available

¹ Compare, as regards this particular case, the above Chinese transcriptions *t'u-men* and *t'u-men*.

² *Les noms de nombre en Tokharien B* (Mémoires de la Société de linguistique de Paris, Vol. XVII, 1912, pp. 281—294).

³ *L. c.*, pp. 292, 293; and *Le Tokharien* (Indogerman. Jahrbuch, Vol. I, p. 19).

⁴ VLADIMIR DAL, Толковый словарь живого великорусскаго языка, Vol. IV, col. 767, 773, 857. The Russian word was formerly derived from Turkish by H. YULE (*Hobbes-Jobson*, p. 229), and recently by GOMOCZ (*L. c.*). Yule pointed to Herberstein, who about 1559 reported that "one thousand in the language of the people is called *tisntze* (тисчѣ): likewise ten thousand in a single word *tma*."

strictly points to mediæval times.¹ In view of Avestan *baēwar*, Pahlavi and Persian *bēwar* ('ten thousand'), it would be interesting to have some more exact chronological indications as to the time when *tuman* springs up in Persian literature.

While I perfectly concur with M. Meillet in regarding *tuman* and its congeners as Indo-European, I venture to dissent from him in the opinion that the Turkish forms are derived from Tokharian: I am rather disposed to think that they had straight from Persian. Phonetically, the Turkish, Mongol, and Tungusian forms are decidedly based on Persian *tumān* or *tomān*, while none of those languages exhibits a final *e* like Tokharian B *tumane*, and still less a contracted form like Tokharian B *tomāne* or Tokharian A *tomān*. There is, however, a still more weighty, culture-historical reason why the word in the languages of inner Asia should be traced to Persia as its home. The scholars hitherto engaged in the discussion of this question argued it only from the philological point of view, without accounting for the reasons of the wide expansion of the word, embracing the territory from the Baltic, the Danube, and the Black Sea as far as the north-eastern Pacific. The matter is concerned with the military history of Asia. It was not the necessity of having a word for the numeral "ten thousand," or of expressing the notion of a high indefinite number, that induced Turkish, Mongol, and Tungusian tribes to adopt the word *tuman*: it reached them in consequence of the reception, on their part, of the military organization and tactics launched in Persia. On another occasion I have explained the far-reaching influences emanating from Persia along this line, and the word *tuman* belongs to the same class. STENGESS says, in his revised edition of Johnson's and Richardson's *Persian Dictionary*, that *tumān* refers to "districts into which a kingdom is divided, each being supposed to furnish ten thousand fighting men;"² that *tumān-dār* توماندار is the commander of a *tumān*, and *tumān-dārī* the command of a *tumān*. The same is expressed by RAGNORFF in his *Turkish Dictionary* in assigning to Djagatal *tūmān* the significance "military unit of ten thousand men." As regards the Mongols, we all have read our Marco Polo, who describes the decimal system on which the Mongol army was organized, and who says that "they call the corps of a hundred

¹ For this reason I should hesitate to identify the name of the Hinggan Khan Tooman 頭曼, who died in 209 B. C., with Turkish *tuman* ("ten thousand"), as has been suggested by E. BLOCHET (*Les inscriptions turques de l'Orkhon*, p. 7, note 3). The Chinese transcription *t'ou-man* may well correspond to a Turkish *tuman*; but the latter, after all, may have had another meaning.

² The same definition is given under *toman* by G. TRUVET, in his *Glossary of Indian Terms*, p. 262 (London, 1897). It was the Moghal emperors who with their army organization transplanted the matter and the term into India.

thousand men a *tuc*, and that of ten thousand a *toman*" (ed. of YULE and CORDIER, Vol. I, p. 264).¹ Yule certainly is on the right track when he annotates that the decimal army-division made by Chinggis at an early period of his career was probably much older than his time, and that in fact we find the Myriarch and Chiliarch already in the Persian armies of Darius Hystaspes. According to HERODOTUS (VII, 81), the Persian army invading Greece under Xerxes was divided into tens, hundreds, thousands, and ten thousands, each of these divisions having its own leader, and the leaders being placed under the command of the Myriarch. Again, an exceptional position was taken by the Immortals, those picked Ten Thousand, who were all Persians, and were led by Hydarnes. When one of this corps died, his place was forthwith filled by another man, so that their number was never greater or less than ten thousand (VII, 83). At the root the matter was deeply associated with the territorial organization of the Old-Persian monarchy and the military conscription based thereon. Here we face truly Iranian institutions; and it is self-evident that these, together with many others, were absorbed by the Turks of inner Asia, and subsequently by the imitators of the latter, the Mongols. Hence we are driven to the conclusion that the word *toman*, as the name of a very ancient Iranian military institution, was handed on to Turks and Mongols by the Persians: it was not mathematical, but military necessity that forced this word on its route of migration and tended to preserve its life.

There are, accordingly, good philological and historical reasons for determining the position of the word *toman* with a fair degree of exactness. It is Indo-European in its origin, and propagated in Tokharian, Persian, and Slavic. It is a Persian loan-word in Old-Turkish; a Turkish loan-word in Magyar, on the one hand, and in Mongol, on the other hand; and a Mongol loan-word in Nüchi, Manchu, and other Tungusian languages. It has nothing to do with Chinese *wan*. On the contrary, wherever our word occurs in Chinese records, it is assuredly modelled after the Turkish-Mongol equivalent. T. WATTERS² has already made this correct observation: "The word *toman* in Turki means a myriad, but it has other meanings also, and it is found in other languages. Certain Chinese writers seem to have adopted it, and the word occurs frequently in their writings. It is found transcribed in several different ways [see above], and it is generally used in the sense of a myriad." B. LAUFER.

¹ In like manner Ito Haijita says that each squadron of the Khan was composed of ten thousand men, the chief of whom is styled *amir jūnda* أمير طومان (ed. of DARAD-MENT and SANGUINETI, Vol. IV, p. 300). The military division of the Mongols into *tūman* appears also from the chronicle of SANZI SEISEN (I. J. SCHMIDT's edition, pp. 175, 193, etc., 403); *jūnda*, of course, must not be conceived, with Schmidt, as a collective name of the Mongols.

² *Essays on the Chinese Language*, pp. 159, 160.

VIDAṄGA AND CUBEBS.

In their monumental work *Chau Ju-kua* (p. 224), HIRTH and ROCKHILL have acquainted us with the vegetal product derived from a creeper growing in Su-ki-tan on Java, and styled by Chao Ju-kua *pi-têng-k'ie* 畢澄茄. The translators of this author annotate that, according to the *Pên ts'ao-kang mu*, this is a foreign word which occurs also in the transcription *p'i-têng-k'ie* 毗陵茄. This name itself, however, is not explained by them. It is, first of all, important to note from which time these transcriptions come down. The earliest author cited in the *Pên ts'ao* as speaking of *pi-têng-k'ie* is Ch'ên Ts'ang-k'î 陳藏器, who lived during the first part of the eighth century, and who localizes the habitat of the plant on Sumatra (*Fu shi* 佛誓, Bhōja). Hence we are entitled to the inference that we face a transcription made in the style of the T'ang period; and, to all appearances, we are confronted with the reproduction of a Sanskrit word. The three elements of which the term is composed are well known from the nomenclature of the Chinese Buddhists: Chinese *pi* or *p'i* renders Sanskrit *el* or *bi*; the alternation of *têng* and *ling* allows us to presuppose an initial cerebral in Sanskrit with the choice of a cerebral *f* in Prakrit; the phonetic element *têng* 登 corresponds to ancient **tañ* and **dañ* (for instance, in Mātaṅga and dañsh(ra), while *ling* renders *lin*, *leñ*, or *lañ*; *k'ie* 茄 ("brinjal") has only the ancient phonetic value of *ga*, being the equivalent of 伽, the classifier 十 (in the same manner as in the first character *pi*) being chosen merely in view of the botanical significance of the whole term. Thus we obtain a Sanskrit form *vidaṅga*, and I had indeed arrived at this restoration from a purely phonetic point of view, without knowing that such a Sanskrit word exists, or what it means. The transcription *pi-têng-k'ie* would justify the assumption of a Prakrit form *viṇaṅga* or *viṇaṅga*, and in Bengālī we have *biraṅga* (in Hindustānī *labardā*, *waeruh*; in Pūṣṭu *labrah*). An Arabic form *filāṅga* (see p. 285) likewise supports this view.

The word *vidaṅga* is of ancient date: it occurs in the *Saṁhita-saṁhitā* and repeatedly in the *Bower Manuscript* (also in the form *bidaṅga*).^{*} This plant has been identified with *Embelia ribes* (family *Myrsinaceae*), an immense climber abundant in the hilly parts of India from the Central Himalaya to Ceylon and Singapore, and occurring also in Burma. Its seeds are extensively

^{*} HORSLEY, *The Bower Manuscript*, pp. 301, 320.

employed as an adulterant for black pepper.¹ W. ROXBURGH² states more specifically, "The natives of the hills in the vicinity of Silhet, where the plants grow abundantly, gather the little drupes, and when dry sell them to the small traders in black-pepper, who fraudulently mix them with that spice, which they so resemble as to render it almost impossible to distinguish them by sight, and they are somewhat spicy withal." The seeds of another species (*Embelia robusta*) are eaten by the Paharias of the Darjeeling district.³ This description answers well the pepper-like black seeds dried in the sun, as described by Chao Ju-kua. HIRTH and ROCKHILL, however, are perfectly correct in identifying Chao Ju-kua's *vidāṅga* growing on Java with *Piper cubeba* (family *Piperaceae*).⁴ It was evidently from Sumatra and Java that the term *vidāṅga* was introduced into China together with the cubebæ. The Sanskrit term must have been transferred to this plant antiochthonous to Java, because the products of the Indian and Javanese climbers were very similar in appearance and in their properties. The word doubtless belonged to the Kawi language. Other such instances are known where the Hindu settlers on Java named indigenous products of the island with Sanskrit words designating other species. An example of this kind is afforded by the *pin-kia* 頻伽 birds sent as tribute from Kalinga (訶陵, Java) to the Chinese Court in the year 813.⁵ The name *pin-kia* apparently is an abbreviation of Sanskrit *kalaviṅka*, written in Chinese 迦陵 (or 羅) 頻伽,⁶ exactly corresponding with

¹ WATT, *Dictionary of the Economic Products of India*, Vol. III, p. 242. *Embelia ribes* Burm. is stated to occur also in southern China, Hahang and the Lo-fou shan in Kuang-tung Province and Hongkong being given as localities (FORBES and HEMSLEY, *Journal of the Linnean Society, Botany*, Vol. XXVI, pp. 52, 63). According to the same authors, four other species of *Embelia* occur in southern China. It seems, however, that none of them is known by a Chinese name or is mentioned in the *Péa ts'ao* literature. *Embelia ribes* Burm. is found also in the Dutch East Indies (*Encyclopédie van Nederlandsch-Indië*, Vol. II, p. 218: "De vruchtjes en een uit deze bereid werkzaam beginzel [*embelia-xur*] sijn in den laatsten tijd in Europa als voortreffeljk lintworm-middel in gebruik genomen"). As regards Borneo, it is frequent in the tropical forests of Maribahan and Upper Tenasserim (S. KUNZ, *Forest Flora of British Burma*, Vol. II, p. 102).

² *Flora Indica*, p. 197 (Calcutta, 1874).

³ J. S. GAMBLER, *List of the Trees, Shrubs, and Large Climbers found in the Darjeeling District*, p. 53 (Calcutta, 1896).

⁴ This identification is due to D. HANDBURY (*Scientific Papers*, p. 246). It is given after the latter by S. W. WILLIAMS (*Chinese Commercial Guide*, p. 117), F. P. SMITH (*Contributions toward the Materia Medica of China*, pp. 79, 83), and G. A. STUART (*Chinese Materia Medica*, p. 144, Shanghai, 1911).

⁵ *T'ang shu*, Ch. 222 D, p. 3.

⁶ *Fan yi ming i ts'i*, p. 20* (edition of Nanking). Compare ERTL, *Handbook of Chinese Buddhism*, p. 67.

the Tibetan rendering *ka-ta-pün-ka*, the Indian cuckoo extolled for its melodious voice.¹

In regard to the adjustment which has taken place in the Archipelago between the designations for *Embelia ribes* and *Piper cubeba*, we meet a very interesting parallel in the materia medica of the Arabs. These have been acquainted since the early middle ages with the product of the latter species, known to them under the name *kabūba* كَبَابَة, whence our word "cubeb" is derived,² and discussed at length by Ibn al-Baitār (1197—1248).³ One of the

¹ It is not known to me whether the word *piñka* or *vinka* is recorded in the Kawi language of Java, but, judging from the Chinese notation of it in the Tang Annals, I feel certain that it must have existed there with reference to a fine song-bird indigenous to Java. GROENEVELDT (*Notes on the Malay Archipelago*, in *Misc. Papers rel. to Indo-China*, Vol. I, p. 140) observed that "about these birds many an hypothesis is possible, but not one seems satisfactory." It is matter of regret that he has withheld from us his opinion on the subject. R. STRESEMANN, in a most interesting study on the historical development of our knowledge of birds of paradise (*Neuitates Zoologicae*, Vol. XXI, London, 1914, pp. 13—24), has recently offered the suggestion that the Javanese *pis-bia* birds of the Tang History possibly might have been birds of paradise. This supposition, however, is improbable. Birds of paradise do not sing at all, but are sought for only on account of their magnificent plumage. Moreover, birds of paradise do not live on Java. The centre of their habitat is New Guinea, where twenty-seven known species breed; while three inhabit the northern and eastern parts of Australia, and one the Moluccas (WALLACE, *The Malay Archipelago*, pp. 419—440). Accordingly, the earliest opportunity of the Javanese to become acquainted with birds of paradise was granted at the time when the people of Java reached the Moluccas; and this was not the case before the middle of the fourteenth century, when King Majapahit extended his power into those regions, as narrated in the Old-Javanese poem *Nāgarakṛtāgama* of the year 1365 (translated by H. KERN, *De Indische Gids*, Vol. XXV, 1903, pp. 341—360). As admitted by STRESEMANN in another article (*Neuitates Zoologicae*, Vol. XXI, 1914, p. 39), it was at that time that the casowary of Ceram was first introduced into Java (and it is Stresemann's particular merit that he rejected the old error that the original home of the casowary, known to the Chinese as *huo cāi* 火鷄 [see GROENEVELDT, *l.c.*, pp. 192, 193, 198, 253, 262] was on Sumatra, Java, or Bando); but the same admission must hold good for birds of paradise. Regarding the possibility of the importation of the dried skins for these birds into China, compare P. W. K. MÜLLER in *T'oung Pao*, Vol. IV, 1895, pp. 82—83 (an article not consulted by Stresemann, nor did he utilize YUKA's important contribution to the subject in his *Hokan-Jodan*, p. 95), with comments by HIRTH (*T'oung Pao*, Vol. V, 1894, pp. 390—391) and GROENEVELDT (*ibid.*, Vol. VII, 1896, p. 114). This subject would be deserving of a renewed and more profound investigation; the objections raised by HIRTH and Groeneveldt to Müller's thesis are by no means convincing to me, and at all events will not terminate the discussion.

² YUKA and BONKKA, *Hokan-Jodan*, p. 277. The introduction of cubeb into our pharmacopœia is due to the Arabic physicians of the middle ages.

³ L. LAUREAC, *Traité des simples*, Vol. III, p. 138.

earliest authors cited by him, Ibn al-Heïsem, discriminates between two varieties, a larger and a smaller one, the larger one being *habb al-ayrus* حبّ العروس, the smaller one *falinja* or *falenja* فلنجة. The latter kind is treated by Ibn al-Baitār, who has arranged his material in alphabetical order, under a separate entry,¹ where LECLEUC, the excellent translator of the Arabic work, annotates, "Nous ignorons quelle est cette graine. Ce n'est pas le cubèbe ni la muscade. C'est la graine d'une plante qui croît dans l'Inde et atteint la hauteur d'environ une coudée," etc. Both the description given in the text and the very name *falenja* leave no room for doubt that the vegetal product in question is the *vidanga* of India. Arabic *falenja* is merely a reproduction of this word, and the older Arabic articulation doubtless was *filanga* or *flanga*, which is in perfect harmony with the Chinese transcription *pi-liā* (lā)-ga.²

Hirib and Rockhill err in restricting the occurrence of *Piper cubeba* to Java only.³ According to WATT,⁴ the plant is a native of Java and the Moluccas, and is cultivated to a small extent in India (most probably due to importation from the Archipelago). The well-informed *Encyclopédie van Nederlandisch-Indië*⁵ states that the creeper occurs wild in Java and Borneo, and is cultivated throughout the Dutch East Indies, being exported in large quantities to Holland, where it receives its function in the pharmacopœia.⁶ Ch'ên Ts'ang-k'î, as stated, refers the plant to Sumatra; and whether it grows there or not, its ready-made product seems to have first reached the Chinese from Sumatra rather than from Java.⁷ It is interesting to note that at the same time cubeba had entered India; for Ibn-Khordādhbeh, who wrote between

¹ LECLEUC, *l. c.*, Vol. III, p. 49, No. 1695.

² In view of the Arabic importation of both cubeba and *vidanga* from India and of cubeba also from the Archipelago and China (see below), these two products ought to have been included by G. FERRAND (*Relations de voyageurs et textes géographiques arabes, persans et turcs relatifs à l'Extrême-Orient*, Vol. I, p. 234) in his list of Indian and East-Asiatic products assembled from the great work of Ibn al-Baitār. It is gratifying, at any rate, that Ferrand calls the special attention of "indianistes, sinologues et indosinologues" to the translation of Leclerc, which "is not as well known as it ought to be." The writer has ploughed through Leclerc's work for the last fifteen years, and has always found it a most trustworthy, helpful, and inspiring companion.

³ They do not refer to Marco Polo, who mentions cubeba among the products of Java (ed. of YULE and CORDIER, Vol. II, p. 272).

⁴ *L. c.*, Vol. VI, pt. 1, p. 257.

⁵ Vol. II, p. 355.

⁶ The Dutch name *stuartpeper* ("tail-pepper") presents a literal translation of Malay *lida batakak*, or *marida buntak*.

⁷ According to the *Encycl. Brit.* (Vol. VII, p. 697), *Piper cubeba* is indigenous to South Borneo, Sumatra, Prince of Wales Island, and Java.

844 and 848, enumerates them among the export-articles of India.¹ Li Sên 李珣, the author of the *Hai yao pên ts'ao* 海藥本草 in the second half of the eighth century, quotes a work *Kuang chow kí* 廣州記 ("Records of Kuang-tung") as saying that cubebs grow in all maritime countries and are identical with tender black pepper.² Li Shi-chên comments that they are found in Hai-nan and all foreign countries (scil., of the south?).³ Of greater importance is the fact that under the Sung dynasty the plant was cultivated in the soil of Kuang-tung Province, as reported by Su Sung 蘇頌 in his *T'u king pên ts'ao* 圖經本草.⁴ In Persian, in Hindustani, Bengali, and other Indian languages, cubebs are still called *kabāb-zini* کباب جینی; that is, kabāb from China.⁵

GARCIA DA ORTA⁶ supplies us with some information on this point, which is interesting enough to be cited in extenso: "Tametsi cubebis raro in Europa utamur, nisi in compositionibus: attamen apud Indos magnus earum in vino maceratarum est usus ad excitandum venerem; tum etiam in Iaca [Java] ad exalaciendum ventriculum." Appellatur hic fructus ab Arabibus medicis Cubebe et Quabebe; a vulgo Quabebechini: in Iaca, ubi frequens nascitur, Communi;⁷

¹ G. FERRAND, *l. c.*, Vol. I, p. 31.

• 澄茄生諸海國乃嫩胡椒也 (according to another reading, "the tenderest of black pepper" 胡椒之嫩者).

• 海南諸番皆有之. — Ibn Rusteh, who wrote about 903, mentions cubebs as products of the island Salūhet in the Archipelago; Masūdī, as products of the kingdom of the Mahārāja (G. FERRAND, *l. c.*, Vol. I, pp. 79, 99, 116).

• Finally the word *pī-t'ang* 畢澄 was transferred to a kind of wild pepper 山胡椒 growing in Kuang-tung, as stated in the *Chi su ming shi t'u k'ao* 植物名實圖考 (Ch. 23, p. 69) of 1838 (see BERTSCHMIDT, *Bot. Sin.*, pt. 1, p. 72). This work contains also an illustration of the plant; so does the *Ch'ang lei pên ts'ao* (Ch. 9, fol. 44), where it is entitled "*pī-t'ang-k'ie* of Kuang-chow."

² See YULE in his edition of *Marco Polo*, Vol. II, p. 391.

³ Latinized ab Horto. Garcia went to India in 1534 as physician of the Portuguese Viceroy, and during thirty years made a most thorough study of Indian drugs, products, and medicines. The results of his labor were published at Goa, 1563, under the title "Coloquios dos simples, e drogas e cousas medicinaes, e assi dasguas fructas achadas nella India Oriental onde se tratam algunas cousas tocantes a medicina, pratica, e outras cousas boas para saber." Only six copies of this original edition are said to be in existence. I quote from the Latin edition of C. CLAVIUS (p. 111), published at Antwerp in 1567.

⁴ For the warming of the stomach. Acorra, who wrote a treatise on the drugs of India in 1578, as quoted by Yule, says that the Indian physicians use cubebs as cordials for the stomach.

⁵ Javanese *kasutut*; Malayan *sewutut*.

a reliquis India, præterquam in Malaya, Cubabchini. Non est autem sortitus hanc appellationem, quod in China nascatur, quandoquidem ex Cunda¹ et Iaca, ubi plurimus est, in Chinam perferatur: sed quoniam Chineses, qui Oceanum Indicum navigabant, hunc fructum, quem in iam enumeratis insulis emerant, cum aliis mercibus in alias maris Indici portus et emporia deferabant." Garcia, accordingly, regarded the Chinese only as the importers of the product, not as its growers; and it may be admitted that the bulk of the Chinese importation into India traced its origin to the Archipelago. Garcia, however, never visited China; and we have no reason to question the accuracy of the Chinese account claiming indigenous cultivation, which is amply confirmed by modern observers. In 1780 LOUKERO, in his *Flora Cochinchinensis*, pointed it out as being cultivated in Indo-China.² F. P. SMITH refers to the probable introduction of the species from Sumatra or Java into the province of Kuang-tung. FORBES and HEMSLEY,³ in their comprehensive work on the systematic botany of the East, state in regard to the species (named by them *Litsea cubeba*), "We have only seen the fruit as it appears in commerce, and it is similar to that of the 'mountain pepper' of Central China (*Litsea pungens*, Hemsl.), yet evidently not the same, nor even a cultivated variety of it."

In the Tibetan-Chinese List of Drugs *Fan Han yao ming* 番漢藥名⁴ we meet the Sanskrit *viḍaṅga* under No. 117 in the Tibetan transcription *byi-takha* or *byi-takga*,⁵ explained through Chinese *man-king-tse* 曼荆子 (*Vitex trifolia*),⁶ a plant growing abundantly in northern China, and furnishing a black berry which is used in medicine. Hence the adjustment with *viḍaṅga* was effected: indeed, Ch'en Ts'ang-k'î remarks that the *pi-t'ung-k'ie* (*viḍaṅga*), in their appearance, resemble the seeds of the *wu-lung* 梧桐 (*Sterculia platanifolia*) and those of the *man-king*. On the other hand, we encounter in the same List of Drugs (No. 192) the Chinese term *pi-t'ung-k'ie*

¹ Identical with Cunda, Sunda (see YULE and BURSELL, *Hobson-Jobson*, p. 868).

² BERTSCHINGER, *Early European Researches into the Flora of China*, p. 171.

³ *Journal of the Linnean Society* (sect. Botany), Vol. XXVI, p. 380.

⁴ See for the present BERTSCHINGER, *Bot. Sin.*, pt. 1, p. 104. I hope to give shortly a bibliographical study of this work, which would be too long to insert here. My quotations from it refer to a critical edition (in manuscript) prepared by me. The substance of the work is embodied in A. POZDÂNILEV'S *Учебникъ тибетской медицины* (Vol. I, pp. 247—301). A very poor and careless edition of it was published in 1913 by HÜBNER (*Beiträge zur Kenntnis der chin. sowie der tib.-mong. Pharmakologie*).

⁵ Likewise in Mongol *byidaṅga* (the addition of the letter *y*, as in Tibetan, denoting palatalized *t'*). The word *viḍaṅga* is not contained in the *Mahāvīryapatti*, and it is not known to me how old the Tibetan transcription is.

⁶ BERTSCHINGER, *Bot. Sin.*, pt. 2, p. 357; STUART, *Chinese Materia Medica*, p. 457.

碧澄¹ 茄, with a Tibetan equivalent *rin-po-ŕe nyag*. The first element of this compound means "precious, valuable;" the word *nyag*, not recorded in our Tibetan dictionaries, still awaits explanation. It was not known heretofore that the seeds of *Piper cubeba* or *Embelia ribes* were employed in Lamaist pharmacology, but to all appearances this seems to have been (or still to be) the case.

The previous notes bear out the fact that it is not always sufficient to define pharmacological terms of East-Asiatic languages merely by way of determination of the specimens to which the technical terms at present relate, but that philological and historical researches are indispensable in order to reach a full understanding of the real facts. New associations of ideas were formed when new products turned up and crossed the experience of an earlier allied substance; new adaptations of terms were brought about, rallying most diverse species under the same flag.

B. LAUFER.

¹ If S. W. Williams and his successors transcribed this character *ching* and *ch'ing*, they were, as far as the modern language is concerned, quite correct; for the Tibetan-Chinese work, in which the Chinese names are transcribed in Tibetan letters for the benefit of the Tibetans trading with Chinese in drugs, renders the character in question by ཇཅ.

NÉCROLOGIE.

William Woodville ROCKHILL.

In memory of Mr. Rockhill, whose useful and noble career was so suddenly and lamentably ended at Honolulu on December 8, 1914, and with whom it was my privilege to have been acquainted and to have corresponded for a period extending over eighteen years, I take the liberty to add the following data to the bibliography of his works given by M. Cordier on pp. 162—164 of this volume:

Le traité de l'émancipation ou Pratinakaba-sôtra, traduit du tibétain. (*Revue de l'histoire des religions*, Vol. IX, 1884, pp. 3—26, 167—201).

The Tibetan "Hundred Thousand Songs" of Milarepa, a Buddhist Missionary of the Eleventh Century. (*Proc. Am. Or. Soc.*, 1884, pp. v—x).

Notes on some of the Laws, Customs, and Superstitions of Korea. (*American Anthropologist*, 1891, pp. 177—187).

A Pilgrimage to the Great Buddhist Sanctuary of North China. (*Atlantic Monthly*, 1895, pp. 758—769). [Interesting record of a visit to the Wa-t'ai shan.]

China's Intercourse with Korea from the XVth Century to 1898. London (Luzac & Co.), 1906 (60 p.).

Diplomatic Audiences at the Court of China. London (Luzac & Co.), 1906 (54 p.).

The last of Mr. Rockhill's literary products is the edition of the *Chu fan chi* 諸蕃志 elegantly printed at Tôkyô with movable copper types in one volume, with English postscript, dated April 1, 1914. On September 8, when I conveyed to him my thanks for the copy which he had kindly addressed to me, and expressed my satisfaction at this fine example of Japanese book-making, he wrote me: "The book was published by the Kokumin shinbun Press at Tôkyô I had 250 copies struck off; some of these I had sent to Kelly & Walsh at Shanghai, others to Luzac & Co., London. I hope they reached them safely, but I have not yet heard. I am much pleased that you like the way the book was printed, I rather like it myself." Mr. Rockhill was a rare type of scholar, singularly broad-minded, and equipped with common sense and an unusually wide knowledge of all peoples of the Far-East. His *Life of the Buddha* will remain a household book with all of us; and his four great works devoted to Tibet, the goal of his lifelong ambition, will continue to serve us an inexhaustible mine of valuable information, with their solid fund of geographical

and ethnological data. Besides his writings he left two lasting monuments,—a remarkable collection of Tibetan objects housed in the U. S. National Museum; and the nucleus of a Tibetan, Mongol, and Chinese Library, belonging to the treasures of the Library of Congress in Washington,—the interests of which he always furthered with a liberal spirit. Mr. Rockhill was a man of extreme modesty, and seldom talked about himself and his achievements. He received no honors from this country, but indeed he craved none; and it is decidedly to his credit that he was never chosen by a university for an honorary degree. It is painful to think that at the end of his life his diplomatic services were valued more highly by China than by his own Government.

B. LAUFER.

John ROSS.

Le Rév. John Ross qui avait appartenu à la United Presbyterian Church of Scotland est mort âgé de 73 ans, le 7 août 1915 à Edimbourg. Il était arrivé à Tche fou à l'automne de 1872, mais les missionnaires étant fort nombreux dans ce port, il se rendit à Nipou tchouang où ne se trouvait qu'un agent de la Société biblique écossaise. Ross ouvrit une école de garçons et en 1873, une chapelle dans une boutique; plus tard il se rendit à Moukden. Il était rentré en Europe, il y a cinq ans. Il a publié un certain nombre d'ouvrages, la plupart relatifs à la Mandchourie et à la Corée.

H. C.

- Visit to the Korean Gate. (*Chinese Recorder*, V, 1874, pp. 347—354.)
- History of Corea Ancient and Modern with description of manners and customs, language and geography. Maps and Illustrations. Paisley: J. and R. Parlance, s.d. [1879], in-8, pp. xii—404.
- Corea. (*China Review*, XVI, pp. 19—25).
- The Gods of Corea. (*Chinese Recorder*, XIX, Feb. 1888, pp. 89—92).
- The Products of Corea. (*Ibid.*, April 1888, pp. 166—167).
- The Korean Language. (*China Review*, VI, pp. 395—403).
- Korean Primer, being Lessons in Korean on all ordinary subjects, transliterated on the principles of the "Mandarin Primer", by the same Author. Shanghai: American Presbyterian Mission Press, MDCCCLXXVII, in-8, pp. 89.
- Korean Speech with Grammar and Vocabulary. New Edition. Shanghai and Hongkong, Kelly & Walsh, 1882, in-8, pp. 101.
- The Rise and Progress of the Manchows. (*Chinese Recorder*, VII, 1876, pp. 155—168, 235—248, 315—329; VIII, 1877, 1—24, 197—208, 361—380).
- The Manchus, or the reigning Dynasty of China: their Rise and Progress. Maps and Illustrations. Paisley: J. and R. Parlance, 1880, in-8, pp. xxxii—751.
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- Mandarin Primer: being Easy Lessons for Beginners, Transliterated According to the European Mode of Using Roman Letters. Shanghai: American Presbyterian Mission Press, 1876, in-8, pp. viii—122.
- — 1877, in-8, pp. viii—122.

Georges DEMASUR.

Nous avons le regret d'annoncer la mort de Georges Marie Léon DEMASUR, Architecte Pensionnaire de l'École Française d'Extrême-Orient à Hanoi, Sergent Mitrailleur au 4^m Régiment Colonial Mixte, tué, au cours d'un combat de nuit, du 1^{er} au 2 Mai, à Seddul-Bahr, aux Gardanelles, dans sa 28^e année.

H. G.

BIBLIOGRAPHIE.



LIVRES NOUVEAUX.

Nous avons reçu des Douanes maritimes chinoises: *Returns of Trade and Trade Reports*, 1913. — Part II. — *Port Trade Statistics and Reports*. — Vol. II. — *Yangtze Ports* (Chuugking to Chinkiang) [Renferme un plan du port de Tchenkiang. — Vol. III. — *Central Ports* (Shanghai to Wenchow). — Vol. IV. — *Southern Coast Ports* (Santunao to Pakhoi). — Vol. V. — *Frontier Ports* (Lungechow to Yatung). — Part III. — *Analysis of Foreign Trade*. Vol. I. *Imports*. — Vol. II. — *Exports, with Appendix*.

— *Index to Annual Trade Reports*, 1903—1907, 1908—1912.

— *List of Lighthouses, Light-Vessels, Buoys and Beacons on the Coast and Rivers of China*, 1915.

— *Returns of Trade and Trade Reports*, 1914. — Part I. — *Report on the Foreign Trade of China, and Abstract of Statistics*. Le revenu total de 1914 a été de H.tls. 38.917.525 contre H.tls. 43.969.853 en 1913. La population étrangère en Chine en 1914 était de 164.807 personnes, dont 84948 japonais, 56319 russes, 8914 anglais, 4365 américains, 3013 allemands, 1864 français, 3187 portugais, 202 autrichiens, 16 hongrois, 409 italiens, 258 norvégiens, 279 espagnols, 216 suédois, 218 hollandais, 330 danois, etc.; il y avait 3421 maisons étrangères. Le change était 3 fr. 45 par Hai kouan tael.

Nous sommes heureux de constater l'activité du Directeur des *Variétés sinologiques*. Nous avons reçu en même temps les volumes suivants:

La continuation de l'important ouvrage du R. P. Henri Doux: *Recherches sur les Superstitions en Chine*. No. 36. *La Lecture des Talismans chinois*. Explication de ceux qui ont paru dans la première partie des «Recherches», T. V. — No. 39. II^e Partie. *Le Panthéon chinois* Tomes VI, VII. No. 42, T. VIII.

No. 40. *Notice historique sur les T'oan* 團 *ou Cercles de Sin tcheou* 徐州府 *de Ou-Toan* 五段 — Par le P. Etienne 徐 (Zi), S. J.

No. 43. *四川西境及北境圖* *Carte du So-Tek'ouan Occidental*, Levée en 1908—1910 par le R. P. François Roux 祿方濟 de la Société des Missions étrangères de Paris et récompensée par la Société de Géographie de Paris.

Le Bulletin de l'Ecole française d'Extrême-Orient, T. XIV, No. 7, renferme *Les Tombeaux des Nguyen* 阮 par Richard ORBAND, Administrateur des Services civils.

Nous avons reçu les travaux suivants de l'Institut Oriental de Vladivostok:

1915. — No. 1. — Томъ 56-й, вып. 2-й. И. И. Шмидтъ. Опытъ Мандаринской Грамматики. IV, вып. 2-й. Изд. 3-е.

1915. — No. 2. — Томъ 52-й, вып. 1-й. И. И. Шмидтъ. Опытъ Мандаринской Грамматики II, вып. 2-й. Изд. 2-е.

1915. — No. 3. — Томъ 50-й, В. М. Мендрынъ. Исторія сіогуната въ Японіи. Кн. 2-я.

1915. — No. 4. — Томъ 52-й, вып. 2-й. И. И. Шмидтъ. Опытъ Мандаринской Грамматики. III. Изд. 2-е.

The Journal of the Siam Society, Vol. XI, Part I, paru en Août 1914, mais qui vient d'arriver à Paris, renferme outre les actes de la Société: *Unofficial Mission of John Morgan*, by O.

FRANKFÜRTER; *A Hybrid Dipterocarpus*, by A. F. G. KERN; *Small Pox, Vaccination and the New Vaccination Law in Siam*, by H. Campbell HIGHER.

M. CH. GRAVELLE nous a adressé de Phnom Penh, une étude économique sur *La Valeur du Cambodge* qui est particulièrement intéressante. En voici les conclusions: «Phnôm-Penh, la capitale, groupant presque un vingtième de la population du royaume, avec plus de 70,000 habitants, c'est-à-dire à égalité avec Saïgon, n'attend plus que les derniers progrès, de réamblais et d'assainissement, tout à fait promis depuis trois ans, mais de réalisation lente et retardée, qui en feront la plus belle et la plus salubre des villes indochinoises. Son Budget se monte à présent à 551.874 piastres, celui de Saïgon est de un million de piastres. Cholon dispose de 915,000 piastres, avec 150,000 habitants, Hanoï de 682,000 piastres, avec 85,000 habitants, Haïphong de 357,000 piastres avec 50,000 habitants. Tout est encourageant dans ces constatations et dans les rapprochements, du royaume protégé avec les autres pays de l'Indochine.

«Ce que j'ai voulu établir dans cet «Essai économique», et ce que je crois avoir suffisamment démontré — en laissant à tous les bons vouloirs, à toutes les compétences, l'occasion de s'exercer sur les mêmes questions, la faculté de me compléter et de me corriger — c'est que le Cambodge ne tient pas encore, au soleil colonial et français, la place à laquelle lui donnent droit des mérites incontestables, anciens déjà, faciles à établir, impossibles à méconnaître, et qui font de lui, relativement, le pays le plus riche sans doute de l'Indochine. Assurément il ne manque à la Terre Khmère que d'être connue davantage, pour qu'elle cesse enfin d'être la Cendrillon de notre Extrême-Orient français».

Vient de paraître chez Plou-Nourrit le premier fascicule du *Dictionnaire Cambodgien-Français*, publié par M. Joseph GUESDON, Ancien Missionnaire apostolique au Cambodge sous les auspices de la Commission archéologique de l'Indochine du Ministère de l'Instruction publique et des Beaux-Arts.

Sous les mêmes auspices la librairie Ernest Leroux vient de publier la première livraison (11 planches) de l'ouvrage: *Les Monuments du Cambodge Études d'Architecture khmère Publiées par L. DELAPORTE D'après les documents recueillis au cours des deux missions qu'il a dirigées en 1873 et 1882—1883 et de la mission complémentaire de M. FARAUT, en 1874—1875.*

CHRONIQUE.

Nous extrayons du *Temps* du 13 Mai 1915 les renseignements suivants sur

Les accords sino-japonais.

L'ambassade du Japon à Paris a bien voulu nous communiquer la teneur exacte des demandes adressées par son gouvernement à la République chinoise, ainsi que le projet révisé auquel le cabinet de Peking a fini par adhérer dimanche à la suite de l'ultimatum qui lui avait été adressé jeudi dernier. Nous en extrayons les données suivantes.

I. — Le projet révisé maintient, sauf de légères modifications, les premières demandes relatives à la province du Chan Toong qui étaient conçues comme suit :

1° Reconnaissance par la Chine de toutes les dispositions que le Japon arrêterait avec l'Allemagne pour le règlement de tous les droits, intérêts, concessions, etc., que, en vertu de traités ou autrement, l'Allemagne a vis-à-vis de la Chine relativement à la province du Chan Toong ;

2° Engagement par la Chine de n'aliéner ni concéder à bail, sous quelque prétexte que ce soit, tout ou partie de la province du Chan Toong, y compris les îles situées près de la côte de cette province ;

3° Concession par la Chine au Japon du chemin de fer devant relier Tchefou ou Longkeou à la voie ferrée entre Kiao-Tcheou et Tai-nan-Fou ;

4° Ouvertures de villes principales de la province du Chan Toong à la résidence et au commerce des étrangers.

II. — Voici la partie relative à la Mandchourie méridionale et à la Mongolie intérieure orientale :

a) Prolongation de quatre-vingt-dix-neuf ans du terme du bail de Port-Arthur et Halay et des termes des chemins de fer sur-mandchourien et Ngan-toung-Moukden ;

b) Les sujets japonais pourront, en Mandchourie méridionale acheter ou prendre à bail des terrains tant pour la construction de bâtiments de diverses espèces nécessaires au commerce et à l'industrie que pour entreprises agricoles ;

c) Les sujets japonais auront la liberté d'entrer, de voyager et de résider en Mandchourie méridionale et de s'y livrer aux diverses affaires commerciales, industrielles ou autres ;

d) En ce qui touche les dispositions des b et c susmentionnées, les sujets japonais devront produire devant les autorités locales chinoises des passeports dûment délivrés et qui seront enregistrés par les dites autorités. Ils devront, en outre, se conformer aux lois et règlements chinois de police approuvés par les consuls japonais, et payer aux autorités chinoises les taxes également approuvées par les consuls japonais.

En matière civile et criminelle, le consul japonais, lorsque le défendeur est sujet japonais; et le fonctionnaire chinois, lorsque le défendeur est citoyen chinois, seront respectivement appelés à statuer. Le consul japonais et le fonctionnaire chinois pourront, réciproquement, envoyer leur représentant pour suivre le procès de l'autre et y veiller.

Toutefois, les affaires civiles entre Japonais et Chinois concernant les terrains seront jugées conjointement par le consul japonais et le fonctionnaire chinois, d'après les lois et les coutumes locales de la Chine. Il reste entendu que, lorsque le système judiciaire sera à l'avenir complètement réformé dans ces régions, toutes les affaires civiles et criminelles auxquelles sera mêlé un sujet japonais seront complètement réglées par les tribunaux chinois.

En ce qui concerne la Mongolie intérieure orientale, le gouvernement japonais demande au gouvernement chinois: a) d'autoriser des entreprises mixtes de Japonais et de Chinois dans l'agriculture et ses industries auxiliaires; b) de consulter, en premier lieu, le Japon dans le cas où la Chine voudrait contracter tant des emprunts de chemins de fer que des emprunts gagés sur des taxes; c) d'augmenter le nombre des villes ouvertes.

III. — En ce qui concerne la Compagnie Han-Yé-Ping, le gouvernement chinois s'engagera: a) à approuver l'arrangement qui pourrait ultérieurement être conclu entre la compagnie et des capitalistes japonais pour l'exploitation mixte de cette compagnie; b) à ne pas confisquer la compagnie; c) à ne pas la nationaliser sans le consentement des capitalistes japonais intéressés; d) à ne permettre à la compagnie de contracter aucun emprunt autre que des emprunts japonais.

IV. — En ce qui concerne la non-aliénation des côtes chinoises, le gouvernement impérial sera satisfait de la déclaration, telle qu'elle est suggérée par le gouvernement chinois.

V. — Quant à la province du Foukien, le gouvernement chinois s'engagera, sous une forme quelconque, à ne pas concéder le droit d'établir des chantiers de construction, des dépôts de charbon, des stations navales ou tout autre établissement militaire, sur les côtes de la province du Foukien; il n'autorisera non plus à construire, sur le littoral de cette province, aucun établissement de ce genre avec des capitaux étrangers.

Appliquons qu'en ce qui concerne d'autres demandes formulées dans ce même groupe V, le Japon, pour faciliter l'acceptation de la Chine, a consenti spontanément à en faire l'objet de pourparlers ultérieurs. Ces demandes sont les suivantes:

a) Le gouvernement chinois, en cas de nécessité à l'avenir, engagera des conseillers japonais; b) dans le cas où les sujets japonais désireraient acheter ou prendre à bail des terrains pour établir des écoles et des hôpitaux à l'intérieur de la Chine, le gouvernement chinois leur accordera l'autorisation dont il s'agit; c) le gouvernement chinois enverra plus tard au Japon ses officiers militaires en vue de faire directement des arrangements avec les autorités militaires japonaises, pour l'achat d'armes du Japon ou pour la création d'un arsenal en Chine sous une administration sino-japonaise; d) ou bien le gouvernement chinois accordera au Japon la concession des chemins de fer désirée dans la Chine méridionale, au cas où il deviendrait clair qu'aucune objection ne serait soulevée à ce sujet de la part de nul autre pays, ou bien il s'abstiendra de faire avec tout autre pays des arrangements sur les lignes de chemins de fer en question, jusqu'à ce que le Japon puisse, indépendamment des présentes négociations avec la Chine, arriver à un accord avec la partie dont les intérêts, dans l'opinion du gouvernement chinois, s'opposeraient aux lignes proposées; e) la question de la liberté de prédication pour les missionnaires japonais sera laissée à des négociations ultérieures. Mentionnons en outre que la proposition pour la police mixte sino-japonaise en Chine a été retirée.

L'ambassadeur du Japon fait remarquer que son gouvernement a eu soin d'écartier ce qui pouvait être en contradiction avec les principes d'intégrité territoriale, d'égalité de traitement et de porte ouverte, qu'à diverses reprises, le Japon a déclarés au sujet de la Chine.

L'unique souci du gouvernement japonais, lorsqu'il présente au mois de janvier dernier ses demandes au gouvernement chinois « était de sauvegarder pour toujours la paix en Extrême-Orient. Il entendait poursuivre ce but, en ajustant d'une part, la nouvelle situation créée par la guerre entre le Japon et l'Allemagne, et d'autre part, en consolidant les bases des relations amicales entre le Japon et la Chine par le règlement de diverses questions, causes de malentendus entre les deux pays voisins ».

ASBESTOS AND SALAMANDER.

AN ESSAY IN CHINESE AND HELLENISTIC FOLK-LORE.

BY

BERTHOLD LAUFER.

It is my object, not to write a history of asbestos and its application with reference to human culture, but to unravel the curious traditions entertained by the Chinese regarding this marvellous production of nature, and to correlate their notions of it with the corresponding thoughts of the ancients, the Syrians and Arabs, and of mediæval Europe. Without due consideration of the Western folk-lore, the Chinese traditions, the elements of which are thoroughly based on Occidental ideas, would forever remain a sealed book. We are indebted to A. WYLIE¹ for a most scholarly study, *Asbestos in China*, which contains an almost complete array of Chinese sources relative to the subject; in fact, without his energetic pioneer-labor, the present investigation could not have been carried to the point to which it has now attained. My obligations to him for his able research-work are acknowledged in each and every case. The present state of science, however, has permitted me to go far beyond the results which Wylie was able to reach a generation ago. WYLIE² merely noted in the most general way that the accounts

¹ *Chinese Researches*, section iii, pp. 141—154 (Shanghai, 1897).

² *L. c.*, p. 142.

of the Chinese corroborate the statements of ancient classical writers, mainly emphasizing the point that the Chinese, in the same manner as the ancients, mention handkerchiefs or napkins woven from asbestos. No attempt, however, was made by him to explain all the curious lore that was lavishly accumulated on top of this subject. Here WYLIE¹ merely offered the remark, "The speculations of native writers as to the material of which it was made will probably not be thought equally worthy of credit with the bare recital of facts which came under their notice. In early times they appear not to have suspected that it was a mineral product, but have contented themselves with applying to the animal and vegetable kingdoms respectively for a solution of the difficulty." From the viewpoint of comparative folk-lore and Chinese relations with the West, these speculative theories which partially take their root in Hellenism certainly present most attractive material for study. Further, Wylie's representation of the matter suffers from various defects. It is not well arranged in chronological or any other order, and the sources are not sifted critically. Moreover, as admitted by himself, he did not succeed in identifying most of the geographical terms to be found in the Chinese texts.² At present this task is greatly facilitated, chiefly thanks to P. Pelliot's learned researches, which form the basis of many an important conclusion reached on the following pages. The geographical point of view is indispensable in this case, as only in this manner is it possible to trace the routes over which ideas have wandered.

By "asbestos" we understand the fibrous varieties of tremolite, actinolite, and other kinds of amphibole, the fibres of which are sometimes very long, fine, flexible, and easily separable by the fingers,

¹ *L. c.*, p. 144.

² Also HIRTH (*China and the Roman Orient*, p. 252) confessed that he was unable at the time when he wrote (1885) to identify these names.

and look like flax. The colors vary from white to green and wood-brown. The name "amiantus" is now applied usually to the finer and more silky kinds. Much that is called asbestos is chrysotile, or fibrous serpentine.¹ Asbestos, then, is a term of generic character, applied to the peculiar fibrous form assumed by several minerals, and not a name given to any one particular species; the asbestiform condition being simply a peculiar form under which many minerals, especially serpentine, occasionally present themselves. The varieties of asbestos are very numerous. They are all silicates of lime and magnesia or alumina, and commonly occur in crystalline rocks of metamorphic origin. The most valuable property of asbestos, its infusibility, is due to the large proportion of magnesia in its composition, which, like lime, has proved absolutely infusible at the highest temperatures attainable in furnaces or otherwise. Under the blowpipe a single fibre will fuse into a white enamelled glass or opaque globule, but in the mass some varieties have been known to resist the most intense heat without any visible effect. Chrysotile, however, if exposed for some time to long-continued heat, will lose somewhat of its tenacity and silkiness, and become rough and brittle.² The word "asbestos," then, in its present loosely-defined significance, is rather a commercial than a mineralogical term, and covers at least four distinct minerals, having in common only a fibrous structure and more or less fire and acid proof properties.³ It will be well to keep this in mind, as it cannot be expected that the Greek, Roman, Arabic, and Chinese writers, in their accounts of asbestos, should have in their minds a uniform and well-defined mineralogical species.

¹ E. S. DANA, *System of Mineralogy*, p. 339 (New York, 1893).

² R. H. JONES, *Asbestos, its Properties, Occurrence, and Uses*, pp. 13, 22, 23 (London, 1890).

³ G. P. MERRILL, *Notes on Asbestos and Asbestiform Minerals* (*Proc. U. S. Nat. Mus.*, Vol. XVIII, 1895, p. 251).

ASBESTOS IN CLASSICAL ANTIQUITY.—It is possible that Theophrastus (372—287 B.C.)¹ makes mention of asbestos, although this name does not appear in his writings. He states, "In the mines of Scaptesylos is found a stone, in its external appearance resembling rotten wood, which is kindled by oil poured over it; when the oil is consumed, the stone itself ceases to burn, as though it were not affected by fire." Theophrastus discusses in this connection the different effects which the action of fire may bring about upon stones; but while he may have had asbestos in mind, this conclusion is by no means forcible. Others hold, for instance, that he speaks here of bitumen,² and this view seems more probable.

STRABO (circa 63 B.C.—A.D. 19; x, 1, § 6) states that "in the quarries near Carystus, at the foot of Mount Ocha in Euboea, is extracted a stone which is combed like wool, and spun and woven; of this substance, among other things, are made napkins (*χειρόμακτρα*) which, when soiled, are thrown into the fire, and whitened and cleaned, in the same manner as linen is washed."³

¹ *De lapidibus*, 17 (opera ed. F. WIMMER, p. 343).

² JOHN HILL, in his still very useful work *Theophrastus's History of Stones with an English Version, and Critical and Philosophical Notes* (p. 46, London, 1746), makes the following interesting comment on this passage: "It is much to be questioned whether this was the true original reading, and genuine sense of the author; in all probability some errors in the old editions have made this passage express what the author never meant to say. The substance, and indeed the only substance described by the other ancient naturalists as resembling rotten wood, is the gagates or jet before mentioned among the bitumens; but that has no such quality as the author has here ascribed to this stone of Scaptesylos. The ancients, it is to be observed, had a common opinion of the bitumens, that the fire of them was increased by water, and extinguished by oil; and very probably this was the sentiment originally delivered here by the author, however errors upon errors in different copies of his works may since have altered the sense of them. The stone itself was probably a bitumen of the lapis Thracicus kind, as the place from whence it has its name was a town of that country."

³ Compare F. DE MÉLY, *Lapidaires grecs*, p. 14. Carystus (now Castel Rozzo) was a city situated at the southern extremity of the island of Euboea, south of the mountain Ocha (now St. Elias). It was there that in 480 B.C. the Persian expedition under Datis and Artabanes landed (HERODOTUS, VI, 99). At the time of Plutarch the mine was exhausted (see below). Celebrated was the marble of Carystus (mentioned also by Strabo),

DIOSCORIDES (v, 156) of the first century A.D., who designates asbestos by the name "amiant,"¹ says that this stone is found on Cyprus, and resembles alum, that may be cleft (*στυπτηρίᾳ σχίστη*).² Being flexible, it is made by traders into tissues for the theatre. Thrown into the fire, they flame up, but come out more resplendent without having been attacked by the fire.³

APOLLONIUS DYSCOLUS, who lived in the first half of the second century A.D., has the following interesting notice on asbestos:⁴ "Sotacus, in his treatise on stones,"⁵ says in regard to the stone called Carystius⁶ that it has woolly and downy excrescences, and that napkins are spun and woven from this mineral. It is twisted also into lamp-wicks which emit a bright light and are inexhaustible.⁷ When these napkins are soiled, their cleaning is performed not by means of washing in water, but brush-wood is burnt, the napkin

the quarries of which are still preserved (see LANGE, *Mineralogie der alten Griechen und Römer*, p. 59).

¹ Greek ἀμιαντᾶς ("undefilable"), from *μιαίνω* ("to soil, defile").

² Regarding alum see M. BERTHELOT, *Collection des anciens alchimistes grecs*, Vol. I, p. 237.

³ P. DE MÉLY, *J. c.*, p. 24. The Arabic version (L. LEHENDI, *Traité des simples*, Vol. II, p. 414) says that it resembles the alum of Yemen, and speaks of tissues without reference to theatrical use. J. YATES (*Testimonia Antiquorum*, p. 359) remarks that the epithet *ἀσβεστόν* may have referred to that variety of asbestos which is now called mountain-leather and commonly found with the fibrous asbestos.

⁴ *Historiæ mirabiles*, XXXVI (*Rerum naturalium scriptores Graeci minores*, ed. KELLER, Vol. I, p. 52).

⁵ A work which is lost now. Sotacus lived in the third or perhaps even toward the close of the fourth century A.D. He is chiefly known to us from quotations in Pliny who cites him on seven occasions. Judging from the exact definitions of localities which he gave in order to determine stones and jewels according to their origin, he appears to have travelled a good deal in Hellas and on the Greek islands. The then known world from India to Britannia and Aethiopia supplied him with material for observations; and his definitions, as we see from Pliny, were accepted as models by subsequent scholars. He dealt also with the employment of the single stones, particularly in medicine and magic (compare F. SCHMIDT, *Geschichte der griechischen Litteratur in der Alexandrinervzeit*, Vol. I, pp. 860—861).

⁶ That is, stone from Carystus (see the above citation from Strabo).

⁷ Hence arose the name asbestos (*ἀσβεστός*) which means "inextinguishable."

in question is placed over this fire, and the squalor flows off;¹ while the cloth itself comes forth from the fire brilliant and pure, and is again utilized for the same purposes. The wicks remain burning with oil continually without being consumed. The odor of such a wick, when burnt, tests and detects the presence of epilepsy in persons.² This stone is produced in Carystus, from which place it received its name; in great abundance, however, on Cyprus, as you go from Gerandrus to Soli,³ under rocks to the left of Elmaeum. At the time of the full moon the stone increases, and again it decreases with the waning of the moon."⁴

PAUSANIAS (I, 26) narrates that the golden lamp made by Callimachus for the temple of Athene Polias in the Acropolis of Athens, which was kept burning day and night, had a wick of Carpasian flax (*λίvon Καρπασίον*), the only kind of flax that is indestructible by fire.⁵ PLUTARCH (*circa* A.D. 46—120), in his *De oraculorum defectu*,

¹ This is a correct estimation of the process. The throwing into the fire of asbestos cloth, narrated in so many texts, Western and Eastern, is of course not to be taken literally; the cloth was simply put over a charcoal fire. There is no reason to accede to the opinion of J. T. DONALD (*Some Misconceptions concerning Asbestos, Engineering and Mining Journal*, Vol. LV, 1899, p. 250) that these stories "are to a large extent mythical; certainly, if true, the articles in question were not made of asbestos."

² PLINY (XXVIII, 63, § 228) says the same about the smell arising from burnt goat's horns or deer's antlers (*morbum ipsum deprehendit capris cornua vel cervini utriusque*).

³ A city on the north coast of Cyprus.

⁴ A similar observation is referred by PLINY (XXVIII, 67, § 181) to the selenitis ("moon-stone"), which contains an image of the moon, and reflects day by day the form of this luminary while waxing and waning, if this is true (*selenitis... imaginem lunae continens, redditque ea in dies singulos crescentis minuantisque sideris speciem, ut verum est*). According to DIOSCORIDES (v, 149), the selenitis is found at night at the time of the waxing moon, and, pulverized, the stone is administered to epileptics. It thus seems that the last clause of Apollonius, as well as his reference to epilepsy, were inspired by traditions pertaining properly to selenitis. The latter, in my opinion, denotes a variety of mica, and it will be seen that the Chinese also know of a stone in which notions of mica and asbestos are blended. Ibn al-Baitār, in his Arabic rendering of Dioscorides' *Materia Medica*, translated the Greek *amiantos* by *al-falk* (that is mica, not our tale).

⁵ Asbestos from the vicinity of Carpasus, a town in the north-east corner of Cyprus, now called Carpas.

mentions napkins, nets, and kerchiefs of this material, but adds that it was no longer found in his time, only thin veins of it, like hairs, being discoverable in the rock.¹ There was further asbestine cloth for enveloping the ashes of cremated bodies, as stated by Pliny. As in other matters, so likewise on asbestos we owe to Pliny the most detailed notes.

PLINY knew asbestos of two localities,—Arcadia and India. That found in the mountains of Arcadia is of an iron color.² He has the following notice regarding asbestine cloth: "An invention has been made of a kind of material which cannot be consumed by flames. It is styled 'live,' and I have seen at banquets table-cloths made from it and burning over a fire. When the dirt was thus removed, they came forth from the fire brighter than water would have cleaned them. Funeral garments are made of this stuff for the kings to separate the ashes of the body from those of the pyre. This substance is found in the deserts of India scorched by the sun, where no rains fall, in the midst of deadly serpents, and thus becomes accustomed to live³ in the blaze. It is but rarely found, and difficult to weave owing to the shortness of its fibres. Its color is red by nature, and becomes white only through the action of fire. When found in its crude state, it equals the price of excellent pearls. In consequence of its natural properties it is called by the Greeks *asbestinon*.⁴ Anaxilaus⁵ is responsible for the statement that a tree enveloped by this linen is felled without the

¹ Among the Greek alchemists the word "asbestos" assumed the signification "lime;" thus Zosimas wrote a treatise on the latter under the title "Asbestos" (M. BARNÉOL, *Origines de l'alchimie*, p. 185).

² Asbestos in Arcadias montibus nascitur coloris ferrei (XIIIV, 54, § 146).

³ *Vivens*; this description accounts for the above attribute "live" (*vivum*).

⁴ That is, inextinguishable, inconsumable.

⁵ A physician and Pythagorean philosopher who was banished by the Emperor Augustus in 28 B.C. on a charge of practising magic.

blows of the axe being audible. Hence this linen occupies the foremost rank the world over." ¹

In another passage Pliny mentions amiantus as resembling alum (*alumen*) in appearance, ² and losing nothing from the agency of fire. It resists all practices of sorcery, particularly those of the Magi. ³

The notes of the ancients are very plain, but deficient in facts. They give us the localities where asbestos was found, state the kind of products made from it, and point out its power of resistance to fire. We hear nothing, however, about the mode of mining the mineral, or preparing, spinning, and weaving its fibres. ⁴ Above all, it should be borne in mind that no theory regarding the origin and nature of asbestos is handed down to us from classical antiquity. Pliny's idea that its fire-resisting quality is bred by the tropical sun of India, can hardly be regarded as such, and is no more than an expression of his personal opinion. Several authors, it is true, have ascribed to Pliny a belief in the vegetal origin of asbestos, but this is an unfounded assumption. DANA ⁵ peremptorily says that Pliny supposed asbestos to be a vegetable product. BOSTOCK and RILEY, ⁶ pointing to the word *mappa*, as boldly assert that "he

¹ Inventum iam est etiam quod ignibus non absumeretur. Vivum id vocant, ardentemque in facis conviviorum ex eo vidimus mappas sordibus stualis splendescentes igni magis quam possent aquis. Regum inde sanctiores tunicas corporis favillam ab reliquis separant cinere. Nascitur in desertis adustisque solo Indiar, ubi non cadunt imbres, inter diras serpentes, adulescentique vivere ardens, rarum invento, difficile textu propter brevitatem. Rufus de cetero colas splendescit igni. Cum inventum est, aequat pretia excellentium margaritarum. Vocatur autem a Graecis *Asbestos* ex argumento naturae. Anaxilaus auctor est linteo eo circumdatam arborem cordia lotibus et qui non exardiantur caedi. Ergo huc illic principatus in toto orbe (xix, 4).

² AVULUS GELLIUS (*Noctes atticae* [circa A.D. 175] xv, 1) mentions a wooden tower for the defence of the Piraeus, which could not be set on fire by Sulla, because it was coated with alum.

³ Amiantus aluminis similis nihil igni perdit. Hic veneficiis resistit omnibus, privatum Magorum (xxvi, 81, § 189).

⁴ BLUNKER, *Technologie*, Vol. I, 2d ed., p. 205.

⁵ *System of Mineralogy*, p. 382.

⁶ *Natural History of Pliny*, Vol. III, p. 156.

evidently considers asbestos to be a vegetable, and not a mineral production." ¹ Pliny indeed makes no statement whatever to the effect that asbestos is a plant or the product of a tree, as we hear, for instance, in China; neither is there any such testimony in any other classical source. On the contrary, all Greek authors distinctly speak of asbestos as a mineral. Moreover, Pliny most positively regarded both asbestos and amiantus as minerals; otherwise he would not have listed them, as we have seen, in his books xxxvi and xxxvii, which are devoted to mineralogy. For this reason I am convinced that throughout classical antiquity asbestos was considered as nothing but a mineral substance. This is most strongly corroborated by the fact that the ancients were familiar with at least three mines in their own dominion,—Carystus, Cyprus, and Arcadia; and the people who mine asbestos are assuredly familiar with its true nature, and cannot possibly believe in its vegetal provenience. Pliny has inserted his principal notice of asbestos in his book on textiles, because it was as a textile that the substance was chiefly utilized and known. Certainly this textile deserved the name "linen;" in fact, it could not have been termed anything else. We ourselves still speak of asbestos-cloth, and entertain no thought of a vegetable product in this connection. There are vegetal, animal, and mineral fibres, and any material woven from these may be called cloth. The verb *nascitur* ("it is born, it grows"), used by Pliny, does not allow of inferences, any more than the word *linum*. This term does not necessarily refer to plant-life; on the contrary, Pliny employs it also with reference to minerals. Thus the Indian *adamas* does not "grow" (that is, occur) in a stratum of gold. ²

¹ Even an excellent scholar as E. O. von LIEPMANN (*Abhandlungen*, Vol. I, p. 17) wrongly makes Pliny say that asbestos is an incombustible fax. Pliny does not express himself in this manner.

² *Indici non in eorum nascentia* (xxxvii, 15, § 50); or the *adamas* is said to grow in

The notion of the vegetal character of asbestos, indeed, did not exist in classical antiquity, but it is Hellenistic and seems to have sprung up somewhere in the anterior Orient. The earliest source to which I can trace it is the Greek Alexander Romance (*Pseudo-Callisthenes*, III, 22) in which is described a dining-room of imperishable wood in the palace of Queen Candace,—not exposed to putrefaction, and inconsumable by fire. Other manuscripts, however, read ἀμίδρυν and "stones" instead of "wood;" so that the passage is now rendered, "There was there also a dining-room of incombustible amiantus."¹ A Syriac work on natural history of uncertain date, wrongly ascribed to Aristotle, in which Syriac translations of the Homilies of Basilius the Great and the Physiologus and several other unknown books have been utilized, makes a distinct allusion to an "asbestos tree:" "This tree is styled 'The Constant One.' When a man takes a piece of it and flings it into a very hot bath, the latter becomes tepid, as though it had never experienced fire. Also a fire-stove which is set in flames is extinguished and cools off; likewise a baking oven and chimney is extinguished as soon as a piece of that tree is thrown into them."² This notice is followed in the same work by the description of the salamander, which, as will be noticed farther on, plays such a signal part in the mediæval legends of asbestos. The tree-asbestos was adopted also by the Arabic writer Abū Dulaf (below, p. 329). It turns up also in China.

The scarcity of information which the ancients have left to us on the subject of asbestos is to some extent made good by three relics of asbestos tissues still preserved in Italy. One found at Puzzuolo in 1633 belonged to the Gallery Barberini. Another, in

Arabia (named putat in Arabia [67, § 181]). In a similar manner *cedre* was employed in French: E. DE BEZQUES (*Les merveilles des Indes orientales*, p. 15, Paris, 1669), for instance, has, "Cette précieuse pierre croist en plusieurs endroits du monde."

¹ A. AUSFELD, *Der griechische Alexanderroman*, p. 99.

² K. AUREUS, *Buch der Naturgegenstände*, p. 80.

the Library of the Vatican, was discovered in 1702 a mile outside of the Gate of Rome, called Porta Maior; it was a corpse-cloth, five feet wide and six feet and a half long, coarsely spun, but as soft and pliant as silk, enclosing the skull and calcined bones of a human body,—discovered in a marble sarcophagus, thus furnishing a remarkable confirmation of Pliny's statement. The deceased, judging from the sculptured marble, was a man of rank who is supposed to have lived not earlier than the time of Constantine. A third piece of asbestine cloth, of considerable dimensions, is shown in the Museum Borbonico at Naples; it was found at Vasto in the Abruzzi.¹

The early Chinese notices of asbestos bear the same sober character as those of the classical authors.

EARLY IMPORTATION OF ASBESTOS INTO CHINA.—The Chinese first became acquainted with asbestos through their trade with the Roman Orient. Indeed, the first authentic notices of a product from this mineral in the Annals refer to the territory of western Asia. The *Wei li* 魏略, written by Yü Huan between 239 and 265,² enumerates asbestos-cloth among the products frequently found in Ta Ts'in (the Roman Orient).³ The same statement is made in the Annals of the Later Han Dynasty;⁴ likewise in those of the Ts'in and Liu Sung Dynasties.⁵ The fact that Ta Ts'in produces asbestine cloth is mentioned also in the famous Nestorian inscription of Si-ngan fu. The term used in the Annals is *huo huan pu* 火浣布 (literally, "cloth which can be cleansed by fire"), evidently suggested by the stories of the ancients. After the example of WYLIE,⁶ I use

¹ J. YATES, *Textileum Antiquarum*, pp. 339, 360.

² See CHAVANNE, *Toung Pao*, 1903, pp. 513—520; and PELLEROT, *Bull. de l'Ecole française*, Vol. VI, 1900, p. 334.

³ HIRTH, *China and the Roman Orient*, p. 74.

⁴ *Hou Han shu*, Ch. 118, p. 4 b.

⁵ HIRTH, *l. c.*, pp. 40, 43, 45, 61; CHAVANNE, *Toung Pao*, 1907, p. 183.

⁶ *Chinese Researches*, section III, p. 141.

the term "fire-proof cloth" as a convenient synonyme, though this meaning is not directly conveyed by the Chinese expression.

The alleged philosopher Lie-tse¹ mentions a tribute of asbestos-cloth to King Mu of the Chou dynasty (1001—946 B.C.) on the part of the Western Jung. Asbestos is characterized there as follows: "The fire-proof cloth, in order to be cleansed, was thrown into the fire. The cloth then assumed the color of fire, and the dirt assumed the color of the cloth. When taken out of the fire and shaken, it was brilliantly white like snow." This text is not authentic, but retrospective, and cannot be older than the Han period. In the same manner as the diamond was a product hailing from the Roman Orient, so also was asbestos.²

In like manner the text of the *Chou shu* 周書,³ alluding to the same event as that of Lie-tse, is of a purely retrospective character, and devoid of chronological value.⁴ The matter, indeed, is not connected with King Mu or the Chou dynasty; but the fact is borne out by these two texts that under the Han (206 B.C.—A.D. 220), asbestos-cloth, together with diamond-points, was imported into China over a land-route leading from the Roman Orient by way of Central Asia.⁵

¹ Ch. 2, *T'ang wen*.

² WILHELM (l. c., p. 142) seems to regard Lie-tse's text as historical; and HIRTH (*China and the Roman Orient*, p. 250) even goes so far as to say, that if the philosopher Lie-tse, whose writings are said to date from the fourth century B.C. (A.D. in Hirth's book is a misprint), can be trusted, asbestos-cloth was known in China as early as a thousand years B.C. E. FAHRER (*Naturalismus bei den alten Chinesen*, p. 132), in his translation of Lie-tse, justly wondered that things like asbestos were already known in times of such hoary antiquity; but certainly they were not. The alleged *tsun-wei* 錐錐 sword mentioned in Lie-tse is not, as Hirth believed, a sword, but a diamond-point.

³ See CHAVANNE, *Mémoires historiques de Se-ma Ts'ien*, Vol. V, p. 457.

⁴ The text of the *Chou shu* has passed into the *Po-wu-chi* (Ch. 2, p. 4 b, ed. printed at Wu-ch'ang).

⁵ King Mu was the chosen favorite and hero of Taoist legend-makers, to whose name all marvellous objects of distant trade were attached (in the same manner as King Solomon and Alexander in the West). The introduction of the Western Jung is emblematic of the intermediary rôle played by Turkish tribes in the transmission of goods from western Asia to China.

Wylie was inclined to believe that the earliest allusion to asbestos occurs in the *Shi i ki* 拾遺記, where it is said that the people of Yü-shan 羽山 brought yellow cloth for presentation to the Emperor Shun. This, according to him, is not very distinct; but as we learn from the same authority that the same nation, on two later occasions, brought an offering of fire-proof cloth, it seems not unfair to infer that the former offering was of a similar character. That work, however, as stated by WYLIE elsewhere,¹ has little historical value. It was written by Wang Kia 王嘉 of the fourth century; but this work is not preserved, having been afterwards disarranged and partially destroyed. Even if the passage in question were traceable to Wang Kia, our belief in it would not be strengthened; for no authentic work of the pre-Christian era contains any allusion to this matter. Asbestos was found on Chinese soil only in post-Christian times; and Chinese notions regarding asbestos being, as will be seen, to a large extent based on Western folk-lore, it is reasonable to conclude that the Chinese were not acquainted with asbestos before their contact with the Roman Orient. The various accounts of the *Shi i ki* about tributes of asbestos, however, point to the fact that this material came from Western regions.

General Liang-ki 梁冀, who lived under the Emperor Huan 桓 (147—157) of the Han dynasty,² had a costume made from asbestos-cloth, which he used to wear on the occasion of great banquets. He would insist on declining the wine-cup till it was spilled on his suit; and then with feigned anger he would take it off, ordering it to be thrown into the fire. It blazed up as if it were reduced to ashes; but the stains being removed, and the fire extinguished, the cloth appeared bright and clean, as if it had been purified with lees.³

¹ *Notes on Chinese Literature*, p. 102.

² He died in 159 (GILES, *Biographical Dictionary*, p. 478).

³ Compare WYLIE, *Asbestos*, p. 143. This text is handed down under the name of

A report of incontestable authenticity concerning asbestos-cloth being sent as tribute to China refers to the second month of the year 239, in the time of the Three Kingdoms, when envoys from an unnamed country of the Western Region (*Si Yu*), introduced at the Court by means of double interpreters, offered fire-proof cloth to Ts'i Wang Fang 齊王芳 (240—253) of the Wei dynasty. The Emperor directed his military staff to test it, and to proclaim the result to the officers.¹ The intention was perhaps implied to make use of this material for army purposes. Under the Wei, also, the tradition was upheld that early under the Han, gifts of such cloth had been presented by Western countries. Two sovereigns of the Wei lent expression to an ill-founded scepticism as to the actual existence of this substance,—a belief which was not shared by the Taoist Ko Hung 葛洪 of the fourth century.² Ko Hung inaugurates a new period in the study of this subject on the part of the Chinese. Under the Han and throughout the third century, the Chinese accepted asbestos products as a fact, without inquiring into the nature of the mineral or the causes of its wonderful properties. They were satisfied to state merely the effects of its properties. Ko Hung is the first Chinese author to render an account of the origin of asbestos in the romantic spirit appropriate to the Taoist school. The ideas which he expounded, however, are closely inter-

Fu-tse 傅子, who lived in the latter part of the fourth century, and appears in P'ei Sung-chi's commentary to *San kuo chi* (*Wei chi*, Ch. 4, p. 1). HIRTH (*China and the Roman Orient*, p. 251) wrongly ascribes it to the text of *Wei chi* itself; he aptly reminds us of the jest practised by the Emperor Charles the Fifth, who astonished his guests after dinner by exposing an asbestos table-cloth to a fire. In the *Encyclopædia Britannica* (Vol. II, p. 714) this anecdote is connected with Charlemagne; R. H. JONES (*Asbestos*, p. 3) allows both Charleses to pass. The one attribution is as true as the other.

¹ *San kuo chi* (*Wei chi*), Ch. 4, p. 1.

² These texts have been translated by WYLIE (*l. c.*, pp. 160—151); they are therefore not reproduced here, especially as they bear no immediate relation to our subject, which is to trace the development of Chinese notions of asbestos in their dependence on Western beliefs. Compare also the analogous text in the *Yü kien* 寓簡 (WYLIE, *Notes*, p. 163), Ch. 3, p. 2b (ed. of *Chi pu tsu chai ts'ung shu*).

twined with those which the further development of the matter at the end of the classical period in the Occident brought to life. The sober and prosaic notices of the Han and Wei periods thoroughly coincide with those of the classical authors, while Ko Hung's thoughts are on the same level as those of the post-classical writers. In their efforts to find a plausible explanation for the origin of asbestos, the Taoist nature-philosophers directed their thoughts toward the animal and vegetable kingdoms, now explaining it as the hair of a beast, now as the fibre of a plant, and also, through the introduction of the activity of a volcano, welding these two theories into one. Nobody as yet has unravelled the mystery of how these strange speculations arose.¹ As regards the supposed animal origin of asbestos, the gist of the Chinese accounts in general is that there is a fiery mountain (volcano) on which lives an animal lustrous with fire, about the size of a rodent, covered with hair of unusual length and as fine as silk. Ordinarily it dwells in the midst of the fire, when its hair is of a deep-red color; but sometimes it comes out, and its hair is then white. On a dark night the forest is visible from the reflection of the animal's lustre. It is put to death by being sprinkled with water, whereupon its hair is spun and woven into cloth, which makes what is called fire-proof cloth. If the cloth becomes soiled, it is purified by fire. The solution of this riddle may be betrayed in advance: the Chinese animal yielding asbestos

¹ CHAVANNES (*Bulletin de l'Ecole française*, Vol. III, p. 438) indicates an interesting text in *Pei chi* (Ch. 97, p. 2), according to which the Emperor Yang (605—616) of the Sui dynasty despatched Wei Tsin and Tu Hing-men on a mission to the countries of the west; in the kingdom of Shi (Kesh, at present Shahr-i-sabz) they took ten dancers, lion-skins, and hair of the rat which enters the fire (*hou shu wao*). Chavannes cites the definition given of this animal in the *Ka hsi chü*, "The fire-rat enters the fire without burning; its hairs are over ten feet long; they can be made into a textile known as 'cloth washable in the fire.'" "Ce sont des fibres d'amiante ou asbeste qu'on présentait aux Chinois comme étant les poils d'un animal merveilleux," is the comment added by M. Chavannes.

is a disguise of the classical salamander, whose hair or wool was believed by the Arabs and mediæval Europe to furnish the material for asbestos textiles. The history of this subject must be studied in detail to arrive at a correct appreciation of the Chinese traditions, which, on their part, are of sufficient extent and importance to throw light back on the development of the matter in the West.

THE SALAMANDER IN GREEK AND ROMAN LORE.—An animal by the name of salamander is first mentioned by ARISTOTLE (384—322 B.C.): "On the Island of Cyprus, where copper-ore is smelted and accumulates for many days, animals are developed in the fire, somewhat larger than the big flies with short wings that go hopping and running through the fire. They die when removed from the fire. The possibility, however, that the bodily substance of some animals is not destroyed by fire, is proved by the salamander; for this creature, as it is said, will extinguish the fire while passing through it."¹

AUBERT and WIMMER, in their edition of Aristotle's work,² reject this passage as unauthentic, and presumably with good reason. Aristotle does not mention this animal in any other passage, and it is not clear from his text what kind of animal he understands by *salamandra*; it is also difficult to credit a scholar of the intellectual calibre of Aristotle with the belief in animals crossing fire unhurt, which belong, not to natural history, but to the realm of fable.

THEOPHRASTUS (372—287 B.C.), Aristotle's great disciple, mentions the salamander in two of his writings as an animal which he apparently knew from personal experience. He enumerates "the lizard,

¹ "ὅτι Πυλὴ γὰρ μὴ ἀσβεσθαι ἐντολόμεναι τοιαύτης ζῆσης, ἡ σαλαμάνδρα ποτὶ φανερὸν ἔχει γὰρ, ὥς φασί, διὰ τοῦτο βαδίζουσα κατασβέννυσσι τὸ πῦρ; (*Historia animalium*, τ, 19, § 106).

² *Aristoteles Tierkunde*, Vol. I, pp. 119, 515

which is called the salamander," together with birds and the green frog, among the animals whose appearance prognosticates rain.¹ In his treatise on fire he discusses means of counteracting the force of conflagrations; for instance, vinegar, and vinegar mixed with the white of an egg. "If the power of cold is added to such a fluid," he continues, "this co-operates toward the extinction of fire, and this property is said to be found in the salamander; for this creature is cold by its nature, and the fluid flowing out of its body is sticky, and at the same time contains such a juice that it penetrates forward. This is shown by water and fruits which, when touched by it, become injurious, and usually have a deadly effect. The animal's slowness of motion is also of assistance; for the longer it tarries in the fire, the more it will contribute toward its extinction. However, it cannot extinguish a fire of any dimensions, but only one commensurate with its nature and physical ability; and a fire in which it did not dwell long enough will soon light up again."² Also Theophrastus, in the same manner as his master, reproduced a popular opinion of his time, as seen by his addition "it is said" (*Φασι*); but compared with Aelian and Pliny, he is rational and reasonable to a high degree.³

ÆLIAN⁴ tells the following story of the salamander: "The salamander is not a product of fire, nor does it rise from the latter like the so-called pyrigoni;⁵ yet it does not fear fire, but, going against the flame, the animal tries to combat it like an adversary. The witnesses to this fact are the artisans and workmen dealing

¹ Καὶ ἡ τοῦτο φαινόμενη ἐν καλοῖσι σαλαμάνδραις, τῇ δὲ καὶ χλωρὴ βάτραχος καὶ ἰσίδρου ἢτοι ὕδατος κυμαίνουσι (*De signis tempestatum*, 16; *Opera*, ed. WIMMER, p. 361).

² *De igne*, 60 (*Opera*, ed. WIMMER, p. 361).

³ The important text of Antigonus of Carystus will be discussed in another connection (see below).

⁴ *De natura animalium*, II, 31.

⁵ The insects mentioned in the text of Aristotle quoted above.

with fire. As long as their fires flame up brightly and further their labor, they pay no attention to this creature; but when the fires go down and become extinguished, and the bellows blow in vain, they become aware of the counteraction of the animal. Then they trace it out and visit their vengeance upon it; thereupon the fire rises again, and assists their work." In another passage of the same work (ix, 28) Aelian asserts that the hog, when swallowing a salamander, is not hurt, while men partaking of its flesh are killed. The same is expressed by Pliny: "Those in Pamphylia and in the mountainous parts of Cilicia who eat a boar after it has devoured a salamander will die, for the danger of poison is by no means indicated in the odor or taste of the meat; water and wine in which a salamander has perished, even if it has only drunk of the beverage, will also have a mortal effect."¹ In the zoological portion of his great work, Pliny describes the animal thus: "The salamander is an animal of the shape of a lizard, with a star-like design. It never comes out except during heavy rains, and disappears when the sky becomes serene. Such intense cold inheres in this animal, that by its mere contact, fire will be extinguished, not otherwise than by the action of ice. The milky mucus flowing from its mouth, whatever part of the human body it may touch, causes all hair to fall off; and the spot thus touched assumes the appearance of tetter."²

In Book xxix, where he treats the remedies derived from the animal kingdom, Pliny has devoted another chapter to the salamander.

¹ *Apron in Pamphyllia et Ciliciæ montuosis salamandra ab his devorata qui edere, moriuntur: neque enim est intellectus ullus in odore vel sapore; et aqua vinumque interemit salamandra vel iamorta vel et omnino hiberit unde potetur* (x, 53, § 116). In xxix, 23, he dilates still further on the subject.

² *Sicut salamandree, animal lacertæ figura, stellatum, semperque nisi magnis imbribus procreans et serenitate desinens. Hinc tantus rigor, ut ignem tactu costringat non alio modo quam glaciæ. Eisdem sanie, quæ lactea ore vomitur, quæcumque parte corporis humani contactu toti defluunt pili, idque, quod contactum est, colorum in vitiliginem mutat* (i, 67, § 188).

The most interesting point that he makes there is this: "If the assertion of the Magi were true, that the animal is helpful in conflagrations, since it is the only creature able to extinguish fire, this experience would long ago have been made in Rome; Sextius also rejects this statement as incorrect."¹ This passage shows that there were men who disavowed this popular belief; and they are headed by Dioscorides, who affirms that it has been said, and wrongly, that the salamander remained immune on entering fire.² Further, Pliny imputes the superstition to the Persian Magi; and it may, indeed, have spread into the antique world with the diffusion of the Mithraic cult into Rome.

O. KELLER³ also holds that the fables about the salamander betray Oriental origin, but he has not succeeded in tracing their sources.⁴ Pliny's and Aelian's stories doubtless go back to the Alexandrian Physiologus, whether they may have drawn upon this work directly, or received them by way of oral tradition flowing from Alexandria. The *Physiologus* (Ch. 31) states that the salamander entering a fire-stove extinguishes the fire;⁵ and the same is found

¹ Ex ipsa quæ Magi tradunt contra incendia, quoniam ignes sola animalium extinguat, si forent vera, iam esset experta Roma. Sextius...negatque restinguí ignem ab his.

² L. LACÉPÈDE, *Traité des saurois*, Vol. II, p. 235.

³ *Antike Tierwelt*, Vol. II, p. 321. Keller neglected the fundamental passage of Theophrastus regarding the salamander.

⁴ The evidence produced by Keller in favor of the Oriental origin is rather perplexing. The name "salamander," which cannot be explained from Greek, indubitably comes from Asia. Arabic and Persian offer the name by omitting the syllable *al*, and the word thus abbreviated is said to mean "poison within." It is of course impossible to derive the Greek name from Persian or Arabic; on the contrary, Arabic *asmandal* سَمَنْدَل, *asmandar*, *samaidar*, *asmandal*, *asmandal*, *asmand*, *sandal*, and Persian also *asimandir* سلامندیر, are derived from Greek *salamandra*, as admitted by all competent philologists (P. HORN, *Namen der Säugetiere bei den äldstentischen Völkern*, p. 83; the Ethiopic Physiologus still offers the form *salmandar*; STEINBOCK, *Persian-English Dictionary*, p. 642; YULE, in his *Marco Polo*, Vol. I, p. 216). The derivation from Persian *sām* "fire," not "poison," which is *asam* اسام, an Arabic word) and *andar* ("within") certainly rests on mere playful popular etymology.

⁵ P. LAURENT, *Geschichte des Physiologus*, pp. 27, 261.

in the *Hieroglyphica* of the Egyptian priest Horapollon of the fourth century A.D.¹ The tradition, accordingly, must have been current in Egypt as early as the first or second century. Let us note right here that the *Physiologus* (Ch. 7) tells also the legend of the phoenix which cremates itself in the Temple of the Sun at Heliopolis, how on the ensuing day arises from the ashes a worm, which develops on the second day into a young bird, till on the third the phoenix itself comes out therefrom in its previous shape; for this notion has likewise been associated with the attempts to account for the origin of asbestos,—asbestos, salamander, and phoenix, all representing or yielding matters going through fire unscathed. The *Physiologus* contains no reference to asbestos; and it must be emphasized that the assimilation of the three has not taken place in classical antiquity, during which they were clearly separated. A wondrous and fabulous book of the type of the *Cyranides*, a late Greek work written between 227 and 400, would not have missed this opportunity, had such an assimilation then existed among the Greeks; but it does not mention a fire-proof textile spun from the animal's hair.²

THE SALAMANDER AND PHOENIX AMONG THE ARABS.—Old d'HERBELOT,³ even, knew that the Arabic word *samandar* designates the animal styled by us "salamander," and that Oriental authors are not in accord as to its species,—the one taking it for a kind of marten,

¹ V. HORNEM, *Äthiopische Ueb. d. Physiologus*, p. XXXII.

² P. DE MÉLY, *Lapidaires grecs*, p. 91. This work defines the salamander as a quadruped bigger than the green lizard, and Pliny and Dioscorides also take it for a lizard. O. KEILER's (*l. c.*, p. 318) identification with *Salamandra maculata* — that is, the animal now called by us salamander (or eft, newt) — seems to me arbitrary. The simplifications of the *Cyranides* are interesting: the animal's heart renders him who carries it with him fearless of fire, intrepid in a conflagration, and incombustible; and when his heart is worn as an amulet by people burnt with fever, the fever will at once abate, etc.

³ *Bibliothèque orientale*, Vol. III, p. 192.

its hair being made into a strong stuff, which can be thrown into fire to be cleansed, when it is soiled, without being in the least damaged; others taking it for a kind of bird generated and consumed in the fire, and found only in places where a perpetual fire is entertained; others, again, describing it as an insect or reptile like a lizard,—but neither D'HERBELLO¹ nor YUL² noticed that the salamander as a bird (his product "salamander's plumage" being the equivalent of "asbestos") is no other than the masqueraded phoenix of the ancients.³ The climax of these curious adjustments is reached by Damiri (1344—1405), in his *Hayât al-hoyawân*, who notes the phoenix under the title "salamander," describes it as an animal like a fox or marten, and attributes to it the yielding of asbestos: "Samandal سمندل is a certain bird that eats *al-bîš* البيش (aconite), which is a plant found in the land of China, where it is edible. It is green in that country; and when it is dry, it becomes a kind of food for the people of China without any injurious effect on them. But if it be taken away from China, even to a distance of a hundred cubits, and is then eaten, the eater of it dies instantaneously."⁴

¹ *The Book of Ser Marco Polo*, Vol. I, p. 216.

² JULIUS CAESAR SCALIGER (*De subtilitate ad Cordanum*, fol. 305 b, Lutetiae, 1557), however, identified it with the phoenix, "which is not entirely fabulous, but, as we read in the navigators, occurs in the interior of India, and is called by the natives *semeida*."

³ This story is found in (and is probably copied from) Ibn al-Baitar (1197—1248), who quotes Ibn Sina as follows: "Some physicians report that the plant بیش grows in China toward the frontier of India, in a country called Halâhil, where alone it occurs. It is eaten as a vegetable in the country of Halâhil, toward the frontier of India. In a dried state it is an article of food for the people of the country, who experience no harm from it. When taken out of that country, if only to a distance of a hundred paces, it acts as a poison, instantly killing him who eats of it" (L. LECLERC, *Traité des simples*, Vol. I, p. 295). This text is important, inasmuch as it shows that the consumption of edible aconite did not take place in China, as Damiri wrongly asserts, but in a border state of the Himalayan region of northern India. Damiri's allegation appears embarrassing, as "the Chinese do not seem to have considered any of the aconites as edible" (G. A. STRAAT, *Chinese Materia Medica*, p. 11); neither does BURROUGHS (Bot. Sin., pt. 3, pp. 252—257) know anything about such a practice. The statement of the *Fie le* regarding one variety of aconite, that it is of a sweetish taste, only shows that there is a non-

A wonderful thing in connection with the phoenix is that it takes pleasure in fire and in remaining in it. When its skin becomes dirty, it cannot be cleansed except by means of fire. It is found largely in India.¹ It is an animal smaller in size than the fox, piebald in color, with red eyes and a long tail. Sashes are woven of its soft hair; and when they become dirty, they are thrown into fire, upon which they become clean without being burnt. Other authorities assert that the phoenix is a bird found in India, that

poisonous ascote in China. On the other hand, we know that in India only two varieties of *Napellus* are poisonous, — *Napellus proper* and *Aconitum rigidum* — while the two others, *Aconitum multifidum* and *A. rotundifolium*, are harmless and are eaten in Bhutan (HOOKER, *Flora of British India*, Vol. I, p. 29). According to FLEISCHER and HANFORD (*Pharmacographia*, p. 15), the tubers of *Napellus* are taken in KENAWAR as aphrodisiac. Arabic *šīl* is derived from Hindi *śīl*, the latter from Sanskrit *śīḥā* (*śīḥā*, "poison"), *Aconitum ferox* (*śīḥā*), *Aconitum heterophyllum*; HORSER, *Rower Manuscript*, p. 186). The word appears in al-BIRUNI (SACHAU, *Alberuni's India*, Vol. II, p. 169) and in QAZWINI, who describes how the fabulous poisonous girls of India are reared on it (SILVESTRE DE SACY, *Chrestomathie arabe*, Vol. III, p. 395). Regarding ascote in India, see WATT, *Dictionary of Economic Products of India*, Vol. I, pp. 84–99 (also published as a separate pamphlet in the series *Agricultural Ledger*, No. 3, 1903); in Tibet, H. LAUFER, *Beitr. zur Kenntnis der tib. Med.*, p. 57. Much valuable and interesting material on Western and Eastern beliefs in aconite poison and its effects has been gathered by W. HERTZ, *Sage vom Giftmädchen* (*Abh. bayer. Akad.*, Vol. XX, 1898, pp. 48–52). Of course, it is not the phoenix which feeds on aconite, but the salamander as a venomous animal. Its poisonous character, inherited from the classical authors, is explained by the Arabs through this process of nutrition.

¹ PLINE (II, 4) attributed asbestos to the deserts of India, where, under the scorching rays of the tropical sun and among numerous deadly serpents, it acquires the property of resisting fire. Hierocles, a Greek writer of the sixth century A.D., says of the Brahmans of India that their garments are made of the soft and skin-like fibres of stones, which they weave into a stuff that no fire burns or water cleanses; when their clothes get soiled, they are thrown into a blazing fire, and come out quite white and bright (McKENZIE, *Ancient India as descr. in Class. Lit.*, p. 186). G. WATT (*Dictionary of the Economic Products of India*, Vol. I, p. 385) mentions two localities, — the Gohk Taluka, in the Belgaum district in the southern Maratha country, where asbestos is used as an external application in ulcers, made into a paste, after rubbing it down with water; and the country to the south and west of the Kurum River, Afghanistan, where it is mechanically employed and made into brooms and rough ropes, and padding for saddles. Watt imparts a vernacular name for asbestos, *shankha* [*śāḥka*]-*palita*, which he translates "wick made of shells." On Ceylon, asbestos is found, but is not mined commercially (J. C. WILLIS, *Ceylon*, p. 3, Colombo, 1907).

lays its eggs and produces its young in fire. It possesses the property of being unaffected by fire. Sashes are made of its feathers and taken to Syria. If one of them becomes dirty, it is thrown into fire, which consumes the dirt over it, but the sash itself is not burnt. Ibn-Khallikan states, 'I have seen a thick piece of it woven in the shape of a belt for a riding beast throughout its length and breadth. It was put into fire, but the fire had no effect on it whatever. One end of it was then dipped in oil and left over the burning wick of a lamp, upon which it lighted up and remained so for a long time, after which the flame was extinguished; and it was found to be in the same condition as before, unaltered in any way.' He further states, 'I have read in the writing of our shaikh, the very learned Abd-al-Latif, that a piece of *samandal* a cubit in breadth and two cubits in length was presented to the sovereign of Aleppo. They kept on dipping it in oil and lighting it up, until the oil was exhausted, but yet it remained as white as it was.' Farther on, Damiri mentions the salamander under the name *samandar* سمندر and *samaidar* سميدار as "a certain animal well known to the people of India and China, according to Ibn-Sidah."¹

Damiri has compiled his information from the writings of his predecessors. The earliest Arabic notice of the *samandal*-phoenix, as far as I know, occurs in the *Adjaib al-Hind* عجائب الهند ("The Wonders of India"), written in the tenth century, where the bird is localized on one of the Islands of Waqwaq الوقواق: "It can enter fire without burning itself, and remain there long without eating anything but earth."² This work, however, while naming the phoenix

¹ A. S. G. JAYAKAR, *Ad-Damiri's Zoological Lexicon*, Vol. II, pt. 1, pp. 79-81 (Bombay, 1908). G. FERRAND (*Textes relatifs à l'Extrême-Orient*, Vol. 1, p. 248) objects to Jayakar's translation of *samandal* by "phoenix;" but Jayakar is certainly right. The three ideas of asbestos, salamander, and phoenix are assimilated in this notion.

² LUTI and DEVIC, *Livre des merveilles de l'Inde*, p. 173. L. M. DEVIC, in his separate translation of this work (p. 204, Paris, 1878), has this comment: "Semandel ou

for the salamander, makes no reference to a fire-proof textile obtained from the animal. As shown below (p. 328), the geographer Yāqūt (1179—1229) mentions the popular belief that asbestos is the plumage of a bird. In regard to the Caliph Mamun, it is told that the Indian King Dehim presented him with a skin of the bird *samandal* which no fire was able to consume.¹

If the Chinese, as will be seen, made the salamander a rodent, this zoological feat meets a parallel among the Arabs. Qazwīnī enumerates the *samandalun* or *sandalun* as his fifth kind of rat, and describes it as a species of rat that enters fire, recording the same as Damiri relates about the phoenix (above, p. 319); adding

Semandal est le nom arabe et persan de la salamandre, animal fantastique sur la nature duquel les Orientaux ne s'accordent guère; les uns se font un quadrupède, d'autres un oiseau, d'autres enfin un reptile, tous lui attribuant d'ailleurs la faculté de vivre dans le feu sans se brûler. Marco Polo désigne par ce nom l'amiante." No Arabist as yet seems to have conceived the notion that this tradition becomes intelligible only if we combine the three classical traditions concerning asbestos, salamander, and phoenix associated in post-classical times by the common idea of their incombustibility; hence we meet in Arabic literature accounts of asbestos termed "salamandar" which is an animal interpreted as a reptile, phoenix, and finally also as a mammal. — G. FERRAND (*Journal asiatique*, 1904, Mai-Juin, pp. 489—500) has advanced the theory that the one of the two Wāqūq spoken of by the Arabic writers should be identified with Madagascar (the other is Japan, Wa-lao 倭國; compare also the notice of CHAVANNE, *Toung Pao*, 1904, pp. 484—487). In an additional notice (*Journal asiatique*, 1910, Mars-Avril, pp. 321—327) FERRAND admits that Wāqūq may be identified also with Java-Sumatra. In his admirable work *Textes relatifs à l'Extrême-Orient* (Vol. I, p. IV), he adds to these possibilities also East Africa. While not contesting the ingenuity of Ferrand's theory, it is not convincing in all parts (it is chiefly based on the supposed etymology of Wāqūq being derived from the native names for Madagascar, *Fakata*, and for the tree *salwa*). The authority of al-Bērūnī, however, is not to be disparaged, according to whom Wāqūq belongs to the Qumair Islands; the latter, according to his statement, belong to the Diva Islands (Malediva and Laccadiva); further, as asserted by the same author, Qumair is not, as believed by the common people, the name of a tree, but of a people whose color is whitish, and who practice the religion of the Hindu (SACHAU, *Atharwa's India*, Vol. I, p. 210). Wāqūq is here clearly indicated as an island or insular group in the Indian Ocean with a population of Hindu culture. The phoenix, as shown by the above extract from Damiri, is naturalized by the Arabs in India; and it is difficult to believe that the *Adjah* should place the bird on Madagascar, in Indonesia, or in East Africa.

¹ G. WEL, *Geschichte der Chalifen*, Vol. II, p. 353.

at the end, however, that the animal merely looks like a rat, but in reality is none, and that it occurs in the country of Gūr (east of Herat in Khovaresm).¹ A gloss to the Talmud, which repeatedly alludes to the legends of the salamander, remarks that the animal has the shape of a mouse, and arises when the wood of the myrtle is burnt in a stove during seven consecutive years.² It is the same when other Oriental authors make the salamander an animal resembling a marten, except that it differs from it in color; for the salamander is always red, yellow, or green.³

THE SALAMANDER AND PHOENIX IN MEDIEVAL EUROPE.—In the poetry of the European middle ages the salamander appears first of all in the love-songs of the Provençal Troubadours. Pierre de Cois d'Aorlac regards the erotic fire burning in his heart as so pleasing that it is the more desirable to him, the more it burns him, like the salamander, which is happy in fire and blaze.⁴ In the contemporaneous lyrics of Italy we meet the allegories of the salamander and phoenix woven together: the amorous fire (*il foco amoroso*) is likened to that tenanted by the salamander; the poet is consumed by it, but at the same time rejuvenated like the phoenix; or he dies from the effect of the amorous fire like the phoenix, not being endowed with the salamander's property of being able to live in fire; or he rises again to a new life, like the phoenix, and life in fire becomes his second nature, as is the case with the salamander.

¹ F. HORNEL, *Namen der Säugetiere bei den südasiatischen Völkern*, p. 336; JAYAKAR, *Dani's Zoological Lexicon*, Vol. II, pt. 1, p. 80. In another place Quenstedt mentions also the mineral asbestos (G. JACOB, *Waren beim arabisch-nordischen Verkehr*, p. 18).

² L. LEWYSON, *Zoologie des Talmuds*, p. 225.

³ D'HERBELOT, *Bibliothèque orientale*, Vol. III, p. 122.

⁴ The idea that the salamander is happiest in fire first occurs in Saint Augustine (*De civitate Dei*, XXI). It is notable how the exaggerations grow. Classical authors stated nothing to that effect, but merely that the salamander coming in contact with fire can extinguish it.

Also the German poetry of the thirteenth century not infrequently mentions the salamander, and incombustible materials spun from its hair. The latter, for instance, occurs in Wolfram von Eschenbach's *Parsifal*. The earliest mediæval allusion to this pseudo-salamander asbestos seems to be made in a Provençal treatise on birds and animals ("Naturas d'alcus auzels e d'alcunas bestias"); where it is said, "The salamander subsists on pure fire, and from its skin is made a cloth which fire cannot burn."¹ Again the salamander, through the metamorphosis of the phoenix, appears as a bird. Richard de Fournival, who died about 1260, regards the salamander as a white bird subsisting on fire, and from whose plumage are made cloths that can be purified only by fire.² According to the Old-French romance of Bauduin de Sebourg, the salamander lives in the terrestrial paradise as a bird with white woolly down made into tissues; and in Partonopous de Blois a nuptial coat is lined with salamander's down.³ ALBERTUS MAGNUS (circa 1193—1280)⁴ seems to be the only mediæval author who knew that salamander's plume was asbestos.⁵ KONRAD VON MEGENBERG (1309—74), who in his *Book of Nature* devoted a chapter to the salamander,⁶ tells that Pope Alexander possessed a garment of salamander-wool which was washed in fire instead of water.

¹ Salamandra viu de pur foc, e de son pel fa hom un drap que foc no'l pot cremar. Compare F. LAUCHERT, *Geschichte der Physiologie*, pp. 186, 188, 189, 202.

² HIPPOL, *Bestiaire d'amour*, p. 20 (Paris, 1860).

³ W. HERTZ, *Sage vom Giftmädchen*, p. 66 (*Abh. bay. Akad.*, Vol. XX, 1893). He refers also to the Byzantine poet Manuel Philos (thirteenth century), who, in his didactic poem on the Properties of Animals, classifies the salamander among the birds.

⁴ *De secretis mulierum item de virtutibus herbarum lapidum et animalium*, p. 134 (Amstelodami, 1669).

⁵ Si vis ignem perpetuum inextinguibilem facere. Accipe lapidem qui Abaston dicitur, et est coloris ferri et quam plurimum in Arabia reperitur. Si enim lapis ille accendatur nunquam poterit extinguí, eo quod habet enturam lanuginis, quae pluma salamandris vocatur, cum modico humidi unctus pinguis, inextinguibilis est ab ipso, et id foret ignem accensum in eo.—Albertus' form *abaston* may be compared with the Middle-English forms *asbestos*, *abestun*, *abistun*, *abdeston*.

⁶ Ed. of F. PREIFFER, pp. 276—279.

F. LAUCHERT¹ has shown that the mediæval notions of salamander and phoenix are traceable to the Greek Physiologus;² but he omitted to point out that the conception of the salamander-asbestos is novel, and peculiar to mediæval times. YULE³ admits that he cannot tell when the fable arose that asbestos was a substance derived from the salamander. Certain it is, that it did not exist among the classical peoples; certain it is, also, that the early mediæval writers, with the exception of Albertus Magnus, were not aware of the fact that the alleged product of the salamander was nothing but asbestos, and that asbestos as a mineral was unknown to them,⁴ while it was known to the Arabs. There can be no doubt that the Arabs (say, roughly, in the tenth and eleventh centuries) spread the legend to Europe⁵ by way of Byzance and Spain. The lacune indicated by Yule remains, and it will be seen in the further discussion that this gap in our knowledge is aptly filled by the records of the Chinese.

Marco Polo, with his keen power of observation and his large share of common sense, was the first to shatter the European superstition. It is interesting that he uses the word "salamander" in the sense of asbestos.

"In a mountain of the province of Chingintalas there is a vein of the substance from which salamander is made. For the real truth is that the salamander is no beast, as they allege in our part

¹ *Geschichte des Physiologus*, l. c.

² Plinian influence is visible in the venomous properties of the "asake salamander, which, when touching even the foot of a tree, poisons all its branches" (LAUCHERT, p. 194; PLINY, lxxix, 23).

³ In his edition of *Marco Polo*, Vol. I, p. 216.

⁴ MEUSEBACH (*l. c.*, p. 424) noted asbestos after Isidore, but did not see its identity with salamander-wool.

⁵ It is interesting to note that our own historians of the middle ages did not always grasp the facts in the case; while our Orientalists, owing to the knowledge of Arabic sources, were able to unravel the mystery. Thus A. SCHULTZ (*Das künftige Leben zur Zeit der Maimoniden*, Vol. I, p. 338) mentions without explanation "the textures produced from salamanders and burnt by no fire;" and G. JACOB (*Waren beim arabisch-nordischen Verkehr im Mittelalter*, p. 18), with reference to Qarwīn, lays bare the fact.

of the world, but is a substance found in the earth; and I will tell you about it.

"Everybody must be aware that it can be no animal's nature to live in fire, seeing that every animal is composed of all the four elements. Now I, Marco Polo, had a Turkish acquaintance of the name of Zurficar, and he was a very clever fellow. And this Turk related to Messer Marco Polo how he had lived three years in that region on behalf of the Great Kaan, in order to procure those Salamanders for him. He said that the way they got them was by digging in that mountain till they found a certain vein. The substance of this vein was then taken and crushed, and when so treated it divides as it were into fibres of wool, which they set forth to dry. When dry, these fibres were pounded in a great copper mortar, and then washed, so as to remove all the earth and to leave only the fibres like fibres of wool. These were then spun, and made into napkins. When first made these napkins are not very white, but by putting them into the fire for a while they come out as white as snow. And so again whenever they become dirty they are bleached by being put in the fire.

"Now this, and nought else, is the truth about the Salamander, and the people of the country all say the same. Any other account of the matter is fabulous nonsense. And I may add that they have at Rome a napkin of this stuff, which the Grand Kaan sent to the Pope to make a wrapper for the Holy Sudarium of Jesus Christ." ¹

This sober account based on information received in China has left a lasting impression upon European science, and has taught how to discriminate between asbestos as a mineral and the salamander as an animal. A. BORTIUS DE BOOT ² rejected Polo's designation of

¹ Ed. of YULE and COHEN, Vol. I, p. 213. It will be seen farther on that Marco Polo's account is confirmed by the contemporaneous Annals of the Yüan Dynasty.

² *Gemmarum et lapidum historia*, p. 383 (Lugdunæ Batavorum, 1638).

the mineral as salamander, restoring the ancient names "amiantus" and "asbestinus," and ridiculed the belief in any animal living in fire. Relying on Marco Polo, A. KIRCHER¹ has fully discussed the subject from a scientific point of view; and his contemporary, the zoölogist JOHN RAY,² was able to state, "Quod Salamandra sine ullo incommodo in igne vivere possit a vulgo creditam, verum a doctioribus dudum abunde refutatum est."

ASBESTOS IN THE NEAR EAST.—Asbestos was well known to the Arabs and Persians, and was much employed by them.³ A number of valuable notes concerning this matter we owe to the erudition of E. WIEDEMANN.⁴ Evliya Effendi narrates that the wonderful carpet presented by Khosru I Nürshirvan to the monastery which he built near Ütch Kilise was made of asbestos, and that asbestos textiles were manufactured on Cyprus.⁵ The Arabic soldiers who hurled naphtha at beleaguered towns were equipped with asbestos garments in order to guard them from accidents which might have happened from handling this inflammable substance.⁶ Dimashqi, Abul Fedâ (1273—1331), and Yâqût (1179—1229) point to Badakshan

¹ *La Chine illustrée*, pp. 278—280 (Amsterdam, 1670). Kircher says that he could receive no information as to the stuff sent by the Great Khan to the Pope (see also COEDICE's note in Yule's *Marco Polo*, Vol. I, p. 316; and compare the above quotation from K. von Meggenberg).

² JOANNES RAIES, *Synopsis animalium quadrupedum*, p. 278 (Londini, 1693).

³ A Syrian allusion occurs in the *Historia Monastica* of the Bishop of Margh (A.D. 840): "Prayer made the martyrs like asbestos before the fire" (E. A. W. BUDGE, *The Book of Governors*, Vol. II, p. 499).

⁴ *Zur Mechanik und Technik bei den Arabern* (SB. P. M. S. Erlg., Vol. 39, 1906, pp. 39, 40).

⁵ The latter notice goes back to Dioscorides (L. LACROIX, *Traité des simples*, Vol. II, p. 414).

⁶ The Italian chevalier Aldini, about 1823, conducted a series of experiments in using asbestos garments for the protection of firemen. His idea was revived in Paris, the firemen there having been furnished with such clothes, and after conclusive proof of their practical utility, was followed in London (R. H. JONES, *Asbestos*, pp. 31, 159).

as the place where the mineral was found; the former making special mention of lamp-wicks made from it, into which fire penetrates, while they remain unharmed. Yaqūt has the following report: "In the mines near Badakshan is found the stone *fatila* (that is, 'stone of the wick'), which resembles papyrus (*bardi*). The people believe that it is the plumage of a bird.¹ It is styled also *al-talq*. It is not consumed by fire. It is placed in oil and kindled with fire, in which case it burns like a lamp-wick.² When the oil burns, the stone remains as before, and none of its properties changes. This always takes place whenever it is dipped in oil and burns. When thrown into a blazing fire, it is not hurt by it. Coarse table-cloths are woven from it. These, being soiled, are put into fire to be purified, and whatever dirt is on them is consumed by the flames. They are cleansed, and come out as pure as though they had never been affected by dirt." The erroneous designation *al-talq* is traceable to Ibn al-Baitār (1197—1248), who groups around Dioscorides' notice of asbestos Arabic accounts of the mineral *ṭalq* corresponding to our mica.³

A very interesting description of asbestos is given by Abū Ubaid al-Bekrī (1040—94) of Cordova in Spain, in his *Geography of Northern Africa*, as follows:⁴—

"Among the singular products of the country of the Negroes is noticeable a tree with long and slender stem, called *tuzzi*. It grows in the sand, and bears a big and swollen fruit containing within it a white wool which is made into stuffs and garments. These stuffs are capable of remaining in a vehement fire forever without

¹ That is, the phoenix. For explanation see above, pp. 318—323.

² Compare the statement of Theophrastus (p. 309).

³ L. LACHÈRE, *Traité des simples*, Vol. II, pp. 414, 415. Pseudo-Aristotle (RUSKA, *Steinbuch des Aristoteles*, p. 174) also describes mica under the same name.

⁴ MACGURKIN DE SLANY, *Description de l'Afrique septentrionale par El-Bekrī*, p. 336 (Algier, 1913).

being damaged. The jurist Abd al-Melek affirms that the inhabitants of Al-Lames, a town of that region, wear only clothing of this kind. Near the river Derā is found a substance similar to it. This is a sort of stone, called, in the language of the Berber, *tamatghost*. When rubbed between the hands, it softens to such a degree that it assumes the consistency of linen. It serves for the making of cordage and halters, which are absolutely incombustible. A costume was made from this substance for one of the Zenatian princes who ruled at Sidjilmessā. A man of proved veracity told me that a trader had sent for a napkin made from this mineral for Ferdilend, King of Galicia, in Spain (Ferdinand I of Leon). He offered it to the prince, explaining that it had belonged to one of the disciples of Jesus, and that fire could produce no impression upon it. He furnished the proof under the eyes of the King, who, struck by such a marvel, expended all his wealth to purchase this relic. He sent it to the sovereign of Constantinople, that it might be deposited in the principal church, and in return received a royal crown with the authorization to wear it. Several persons tell of having seen in the house of Abul Fadl of Bagdad the fringe of a napkin made of this substance, which, when put into fire, became whiter than previously. In order to clean such a napkin, which had the appearance of linen, it was sufficient to place it on a fire."

The employment of asbestos for the purpose of a *pia fraud* is related also by an Arabic traveller. Abu Dulaf who wrote the diary of his journey to China about 941 tells of an incombustible tree, growing in the territory of the tribe Baja (east of Transoxania), from the wood of which the natives make idols; Christian travellers are in the habit of taking this wood along, asserting that it comes from the cross of Christ. Again he relates about the tribe Kharlok that their houses are of incombustible wood.* Both Marquart and

* G. PERRAND, *Relations de voyages arabes, persans et turks rel. à l'Extrême-Orient*,

Ferrand who translated and discussed this text have been unable to cope with this problem. Certainly it is not here the question of a tree, as wrongly supposed by these scholars; still less do we meet here, as suggested by Marquart, the conception that the wood of the cross had miraculously been shooting forth again. What we meet here, in fact is asbestos; and this matter has clearly been expounded as early as 1843 by J. YATES in his classical work *Textrinum Antiquorum: An Account of the Art of Weaving among the Ancients* (pp. 362—365). Yates sets forth that ignorance of the true nature of asbestos caused it to be employed in the dark ages for purposes of superstition and religious fraud, and cites several important documents to this effect. One of these is taken from the *Chronicon Casinense* ("Chronicle of the Abbey of Monte Casino") of Leo Ostiensis who narrates a story that some monks returning from a pilgrimage to Jerusalem brought home a particle of the cloth with which Jesus wiped the feet of his disciples (*particulam lintei, cum quo pedes discipulorum Salvator extersit*); and when the genuineness of this relic was doubted, they put it in fire from which it came forth in its previous shape. Thus the authenticity of the relic was convincingly established. Tiltingus, in 1684, directly says that impostors exhibit to simple women-folks the stone amiantus, and frequently sell it as

Vol. I, pp. 210, 215. Ferrand has misunderstood Marquart, for he ascribes to the latter the supposition that the question is here of teak-wood. On the contrary, MARQUART (*Ostenrop, und asiatiscl. Streifzüge*, p. 76) has decidedly rejected this idea, and strongly enough proposed to regard the incombustible tree as the birch. Why the birch should be called incombustible I am unable to see. Abb Dniel is not to be taken too seriously in matters of natural history; and his assigning to certain tribes of certain products, as partially seen also by Marquart, is purely arbitrary or fictitious. The list of his stones presents curious reminiscences of the fabulous stones of the Alexander Romance and the Arabic *lapidaires* based thereon. The most striking of these reminiscences is the stone luminous at night and serving as lamp (*Pseudo-Callisthenes*, II, 42). This stone, according to the Arabic scribe, is found in the country of the Kirgis! For this reason I am inclined to think that also his incombustible tree is a purely literary invention from the same source. The Chinese have several accounts of unconsumable trees, partly leaning toward asbestos (see WYLER, *J. c.*, p. 148).

the wood from the cross of the Savior; they easily take faith therein, since it is not consumed by fire and is veined in the manner of wood. It is equally manifest that Abū Dulaf's incombustible tree which supplied Christians with sacred souvenirs of the cross was nothing but asbestos, and the report of al-Bekri previously mentioned affords additional evidence to this effect. The alleged products ascribed by Abū Dulaf to Central-Asiatic regions are fancifully construed from the legends told in the Alexander Romance, and there, as mentioned above (p. 308), we encounter also the asbestine wood.

Under the Sung dynasty asbestine stuffs were imported into China by the Arabs over the maritime route; they were seven inches wide, differing in length. In the period Chéng-ho 政和 (1111—18), under the Emperor Hui-tsung, asbestine stuffs of half this width were sent as tribute by the Arabs, and at a later date were followed by dishes and baskets of the same material, which on the whole looked like the cloth then made from the product of the cotton-tree, but somewhat darker and almost black in color. When flung into the fire, they came forth brilliant white.¹ Mosul produced asbestine cloth during the middle ages.²

THE SALAMANDER-ASBESTOS IN CHINA.—After this review of the development of the relevant beliefs in the West, we are prepared to understand the asbestos traditions of the Chinese. In these, three stages of development are clearly set off. The first, already described, ranging approximately from the Han to the third century, I am tempted to term the "historical or classical" set of beliefs,

¹ We shall revert once more to this text, not utilized by Wylie and inserted in the *T'ie wei shan ts'ung t'ao* 鐵圍山叢談 (Vol. 5, p. 20; edition of *Chi yü fan ch'ui ts'ung shu*) of Ts'ai Tiao 蔡條, who lived in the first half of the twelfth century. WILIE (*Notes*, p. 196) states regarding this author that he treats mostly of events which occurred in his own time, and that the work shows a good deal of research, and may be relied upon as an authority in investigations regarding that period.

² HIRTH and ROCKHILL, *Chou Fa-kua*, p. 140.

agreeing, as they do, with Greek and Roman lore; the second, from the beginning of the fourth century down to the end of the Sung, denotes the "romantic" period of beliefs, coinciding with those of mediæval Europe and the Arabs; the third, inaugurated by the Yüan or Mongol dynasty, is the "realistic," or, if the word be allowed, "scientific," period, based on the actual discovery of asbestos on Chinese soil. We have to deal here first with the mediæval romanticism inaugurated by the speculations of the adepts of Taoism.

The earliest attempts to explain the origin and composition of asbestos were made by the celebrated alchemist Ko Hung 葛洪 (249—330), in his work *Pao-p'u-tee*.¹ This author reports on three kinds of asbestos (*huo huan pu* 火浣布) as follows: "As regards the first kind of fire-proof cloth, it is said that there is in the ocean a majestic mound² harboring a fire that burns of itself.³ This fire rises in the spring, and becomes extinguished in the autumn. On this island grows a tree, the wood of which is able to resist the action of fire, and is but slightly scorched by it, assuming a yellow color. The inhabitants make fuel of it in the usual way, but this fuel is not transformed into ashes. When their food has been cooked, they extinguish the firewood by means of water. In the same manner it is put to use again and again, and indeed represents an inexhaustible supply. The barbarians gather the flowers

¹ My rendering is based on the text as quoted in the *Wei-liao* 緯畧 (Ch. 4, p. 3; ed. of *Shao shan to ts'ung shan*, Vol. 74). This fundamental source on the subject has been overlooked by Wylie.

² *Su k'iu* 肅邱. I should be inclined to regard this as the proper name of Volcano Island, if this term were traceable in the *Lixing Annals*, which, as will be seen below, contain the source for this account of Ko Hung; but it does not occur there. Again, the notice of the *Annals* goes back to the last reports of K'ang T'ai 康泰, on his mission to Fu-nan in the first part of the third century. If K'ang T'ai's report had contained the name *Su k'iu*, we might reasonably conclude that it would have found its way into the *Annals*; for this reason it may be solely an invention of Ko Hung.

³ That is, an active volcano.

of these trees, and weave cloth from them: This is the first kind of fire-proof cloth. Further, they also peel the bark of these trees, boil it by means of lime, and work it into cloth, which is coarse and does not come up to the quality of the material prepared from the flowers. This is the second kind of fire-proof cloth. Moreover, there are white rodents (*pai shu* 白鼠) covered with hair, each three inches long, and living in hollow trees. They may enter fire without being burnt, and their hair can be woven into cloth, which is the third kind of fire-proof cloth."¹

The first two sorts of asbestos established by Ko Hung, and alleged to be of vegetal origin, are certainly imaginary; and how this matter came about will be fully discussed hereafter. Here the fact that concerns us is that Ko Hung is the first Chinese writer in whom the idea of the animal origin of asbestos has crystallized. Certainly, his "white rodent" is nothing but the salamander of the Western legend, whose wool furnishes asbestos. At first sight it is striking, of course, that Ko Hung's notice far precedes in time any Western version of the legend; yet this can rationally be explained. Two conjectures which might be made to get easily over this state of affairs would not prove before the facts. We cannot assume that the legend is spontaneously Chinese in origin and migrated from China to Western Asia: in China it has no basic facts, whereas

抱朴子曰。火浣布有三種。其一日海中肅
邱有自生火。春起秋滅。洲上生木。木爲火焚
不糜但小(gloss: 一無小字)焦黃。人或得薪俱如
常。薪但不成灰。炊熟則以水滅之。使復更用
如此不窮。夷人取此木華績以爲布一也。又
其木皮赤剝之。以灰煮治以爲布。當不及華
俱可火浣二也。又有白鼠毛長三寸居空木
中。入火不灼。其毛可績爲布三也。(Wei li, Ch. 4, p. 3).

we have traced its logical development in the West from the combination of salamander and asbestos. Nor would it be possible to regard the account of Ko Hung as unauthentic or as an anachronism, as we have a number of texts, ranging from the fourth to the sixth century, all relating to the same legend. The *Wu lu* 吳錄¹ is credited with the statement that in Ji-nan (Tonking) is captured a fire-rodent whose hair is made into cloth, being styled "fire-proof cloth."² According to BARTSCHNEIDER,³ this book was written in the third century, during the period of the Three Kingdoms (221—280); but it is hard to believe that at that early date the legend of the salamander-asbestos was known in China. The localization in Ji-nan, foreign to Ko Hung, also seems somewhat suspicious. We have noticed above (p. 312) that asbestos was known in the China of that period, and that in the coeval Annals a tribute gift of it from the Western Regions (*Si Yu*) is on record for the year 239, no reference, however, being made to the salamander story. The earliest date that we may assume for the coming into existence of the latter on Chinese soil is the end of the third or the beginning of the fourth century.

It is more interesting that Kuo P'o 郭璞 (276—324), a contemporary of Ko Hung, likewise alludes to the salamander-asbestos; for Kuo P'o, in his commentary to the *Shan hai king*, is made to say the following, as translated by WYLIE:⁴ "Ten thousand *li* to the east of Fu-nan is the kingdom of Ké-po. More than five thousand *li* farther east is the burning mountain kingdom, where, although there may be long-continued rain on the mountain, the

¹ Records of the Kingdom of Wu, by Chang Pu 張勃 of the third century.

² *Wei Shu*, Ch. 3, p. 3. WYLIE (*l. c.*, p. 149) quotes this passage from *T'ai p'ing yü lan* (Ch. 820, p. 8), where the locality is defined as Pei-king 北景 in Ji-nan.

³ *Bibl. Sin.*, pt. 1, p. 209, No. 1643.

⁴ *l. c.*, p. 146.

fire constantly burns. There is a white rat in the fire, which sometimes comes out to the side of the mountain, in order to seek food, when the people catch it and make cloth from the hair, which is what is now called fire-proof cloth." What Wylie transcribes Ké-po is properly Ch'i-po 耆薄; and this is nothing but a variant for the well-known Shê-p'ò 閻婆, the old Chinese designation for the island of Java. The fact that in this connection the question really is of Java becomes evident from other parallel texts alluding to the same matter.¹ The name "Shê-p'ò" for Java, however, does not appear in Chinese records earlier than the first half of the fifth century, the first embassy coming from there being listed in the year 433: consequently Kuo P'ò of the Tsin dynasty cannot have possessed any knowledge of Shê-p'ò, which name must be a later interpolation in his text. Aside from this point, however, the story is entirely creditable to him, because the geographical portion of it, as will be seen, is based on the narrative of K'ang T'ai of the third century, and is even more exactly reproduced by him than by Ko Hung. Kuo P'ò, however, shuns the account of vegetable asbestos, as related by K'ang T'ai and repeated after him by Ko Hung, and focusses the notion of asbestos exclusively on the white rodent (that is, the salamander) inhabiting an active volcano. K'ang T'ai knew nothing at all about this animal. Ko Hung does not naturalize it anywhere. It is Kuo P'ò who took up this legend and placed its home on the Volcano Island first reported by K'ang T'ai: consequently Kuo P'ò's story is a compromise reached between the salamander story coming from the West and the tree-asbestos story of Fu-nan, but it is valueless for tracing the region from which the salamander legend hailed. It did not hail from Volcano

¹ Compare PELLIOU, *Bull. de l'Ecole française*, Vol. III, p. 264; Vol. IV, p. 270; these texts will be discussed farther on.

Island in the Malay Archipelago, as K'ang T'ai located there only the alleged tree-asbestos, which in fact is bark-cloth, that has nothing to do with mineral asbestos. K'uo P'o, further, shows his familiarity with the salamander in his edition of the dictionary *Erh ya*.¹ This enumerates ten kinds of tortoise, the tenth of which is termed "fire tortoise" (*huo kuei* 火龜); and K'uo P'o annotates that it is like the "fire rodent" (*huo shu*).² The latter animal is not included among those enumerated in the text of the *Erh ya*; that is to say, it is entirely foreign to the ideas of ancient national Chinese culture, but is a borrowed type, which first dawned upon the horizon of the Chinese in the very age of K'uo P'o himself.

Another contemporaneous allusion to the same matter is found in the *Ku kin chu* 古今注, written toward the middle of the fourth century by Ts'uei Pao 崔豹, who says that the fire-rodent remains immune when going into fire, and that what is termed "fire-proof cloth" is made from the animal's hair, which is ten feet long.³ Ts'uei Pao, in his succinct and sober statement, thoroughly agrees with Ko Hung, differing from him only in somewhat exaggerating the length of the hair. Yet the same author, in the same work, presents a more fantastic account of the matter, which he traces to the *Book of Marvels*⁴ ascribed to the Taoist adept Tung-fang So (born in 160 B.C.). This attribution, as is well known, certainly is fictitious; and the following text bears out this fact again, because it is based on the account of K'ang T'ai, and must therefore be later than the third century. Tung-fang So, according

¹ Ch. a, p. 10 b.

² This name has been adopted by the Polyglot Dictionary of K'ien-ling (Ch. 31, p. 24) with the literal renderings into Manchu *tuwei singgeri*, Tibetan *ma-hyi*, and Mongol *gal'xi zhiniguna*. The explanations given in the Manchu dictionaries show that the salamander-asbestos is understood (see SACUNAR, *Manchu-Russian Dictionary*, p. 765).

³ *Pei wen yün fu*, Ch. 36, p. 59.

⁴ Entitled by him *Shen i chuan* 神異傳, otherwise *Shen i king* 神異經.

to Ts'uei Pao, is made to say,¹ "In the southern regions there is a volcano forty *li* in length, and from four to five *li* in width. In the midst of this volcanic fire grow trees unconsumable by fire, and day and night exposed to a scorching heat, over which neither wind nor rain has any power. In the fire lives also a rodent, a hundred catties in weight, and covered with hair over two feet in length, as fine as silk, and white in color."² Sometimes it comes out; and by sprinkling water over it, it is put to death. Its hair is then removed and woven into cloth, which is known under the name 'fire-proof cloth.'" Another text, likewise wrongly connected with the name of Tung-fang So, expatiates on the animal with still greater vagaries of fancy, and will be discussed below. We notice that in this Taoist narrative the salamander is made a denizen of Volcano Island, in the same manner as by Kuo P'o. We accordingly have two versions of the legend current during the fourth century,—a simple and sober one, accounting for the origin of asbestos from an animal identical with the Western salamander; and an elaborate and fantastic one, aggrandized by Taoist lore under the influence of K'ang T'ai's report of a Volcano Island in the Malay Archipelago.

The salamander turns up again in that interesting book *Liang se kung tee ki*, relating to the beginning of the sixth century, and written by Chang Yü (667—730),³ "Merchants from the Southern

¹ *Hsien tsuei lei pien*, Ch. 21, p. 6. The text is quoted also in the commentary to *Sau tsoo chi*, *Wei shi* (Ch. 4, p. 1b), in the *Wei shi* (Ch. 4, p. 3), and in the *Ts'i tung ye gū* by Chou Mi.

² It must certainly be white, because asbestos coming out of a fire has this color. WYLLIE (*l. c.*, p. 145), who translates from a modern edition of *Shen i king*, has the addition, "It ordinarily lives in the fire, and is of a deep-red color; but sometimes it comes out, and its hair is then white."

³ See this volume, p. 195. The text in question is preserved in the *Wei shi* 緯畧, Ch. 4, p. 3b; and in the *So sai ting yuen*, Ch. 27, p. 12. WYLLIE (*l. c.*, p. 145) seems to have translated from another book. His addition, "which the emperor had deposited among the miscellaneous cloths," is not in the text before me.

Sea brought as presents three pieces (*tuan*)¹ of fire-proof cloth.² Duke Kie, recognizing it from afar, exclaimed, 'This is fire-proof cloth, indeed: Two pieces are made from twisted bark,³ and one is made from the hair of a rodent.' On making inquiry of the merchants, their statement exactly agreed with that of the duke.⁴ On asking him the difference between the cloth of vegetal and that of animal origin, the duke replied, 'That manufactured from trees is stiff, that from rodents' hair is pliable; this is the point by which to discriminate between them. Take a burning-mirror and ignite the *tsü* trees⁵ on the northern side of a hill, and the bark of the trees will soon become changed.' The experiment was made, and it turned out in accordance with his affirmation."⁶ The witty duke, accordingly, exploded the old tale of K'ang T'ai, that bark cloth was incombustible and a sort of asbestos. He himself, on former occasions, had doubtless applied the experiment which he recommended in the course of the story, and was possessed of that truly scientific

¹ A cloth measure of 18 feet.

² According to the text of the *Wei Shio*, "Duke Kie, passing a market, noticed traders offering three *tuan* of fire-proof cloth" (杰公至市見商人齎火浣三端).

³ It is notable that he speaks of twisted, not of woven bark, as K'ang T'ai and his followers did (see p. 347).

⁴ This sentence is omitted in the text of the *Wei Shio*.

⁵ 柘木 *Cudrania fridole*, Hance. Wylie takes this for 斫, or he may have found this reading in his text; for he translates, "Take some wood cut down on the north side of the hill and set a light to it by means of a solar spectrum." Duke Kie, of course, did not mean to say this. He wanted to prove by experiment that tree-bark is not incombustible, like asbestos; and with this end in view, it was not necessary to chop the trees.

·南海商人齎火浣布三端。杰公遙識曰。此火浣布也。二是緝木皮所作。一是續鼠皮所作。以詰商人具如杰公之說。因問木鼠之異。公曰。木堅毛柔是可別也。以陽燄火山陰柘木蕪之木皮改。常試之果驗 (*Ku chi ling yüan*, Ch. 37, p. 13).

spirit which does not halt at received traditions, but tries by experiment to get at the root of things. To him true asbestos was only the kind attributed to the salamander,¹ and the duke's wisdom demonstrates that the rodents' hair of the Chinese was really mineral asbestos.

The texts thus arrayed bear out sufficiently the fact that the legend of the salamander-asbestos was popularly current in China from the fourth to the sixth century; and the records of the Chinese very aptly fill the gap which, as we noticed (p. 325), exists in the West between the close of classical antiquity and the traditions of the Arabs and mediæval Europe. The Chinese texts are all prior to those of the Arabs, and it is therefore necessary to conclude that the Chinese and the Arabs must have borrowed the legend from a common source extant in Western Asia at least during the third century. This source is as yet unknown to us, but the conviction of its existence is a postulate without which we cannot intelligently understand the case. There are also indications in Western sources which allow the inference that this prototype resulting in the Chinese and Arabic notions must have lingered in the anterior Orient in the beginning of our era. We have referred to the probable Oriental origin of the salamander legend, and to Pliny's association of it with the Persian Magi; we have pointed out also that it was current in Egypt during the first century A.D., and that Pliny's and Aelian's stories are dependent on the Alexandrian Physiologus. There is accordingly good reason to believe that the

¹ This is confirmed by another passage in the same work *Liang shou tung tai ki*, in which Volcano Island (火洲) is mentioned. Here it is said that from the bark of the fiery tree growing there only cloth is made, while fire-proof cloth is produced from the hair of the fire-rodent living on a blazing mound. This text will be found in *T'u shu tai ch'ing*, *Flores i fien* 41, Women Kingdom (Ni kuo), *doi k'ao*, p. 2. It is said to have been translated in its entirety by D'HAUVER-ST. DENYS in his *Mémoire sur le Fou-sang*, which unfortunately is not accessible to me.

salamander legend was known in the Orient on a line stretching from Egypt to Persia, and that the numerous translations of the *Physiologus*, if nothing else, supported its wide diffusion. At the same time, however, as we know from the Chinese records, asbestos-cloth was in evidence in western Asia, and was traded from there over the routes of Central Asia to China. Salamander and asbestos being familiar to the nations of the Roman Orient, they were in possession of the elements with which to form that legend which proceeded from them to China and at a later date loomed up among the Arabs. It may be supposed that this primeval version, as yet unknown, will turn up some day in an early Syriac source (or possibly in a Greek papyrus): and if a Syriac work should tell us of an asbestos-tree, and immediately join to this a notice of the salamander,¹ we may imagine that the temptation was strong to link those two accounts together.

The germ of this lost Oriental version possibly is traceable to a Greek text, from which it can be shown how the identification of asbestos with the salamander may have been effected. Antigonus of Carystus, who was born between 295 B.C. and 290 B.C., and lived at Athens and Pergamum,² has left a small collection of "Wonderful Stories," among which is the following:³ "There are worm-shaped hairy creatures living in the snow. In Cyprus, where copper-ore is smelted, an animal is engendered a little larger than a fly. The same occurs also in the smelting-furnaces of Carystus. Part of them die when separated from the snow; others, when separated from the fire. The salamander, however, quenches the fire." This text is based on that of Aristotle, given above (p. 314), where

¹ See above, p. 308.

² Compare U. VON WILANOWITZ-MILLEDORF, *Ueber Antigonos von Karystos*.

³ *Historiae mirabiles*, 90, 91 (*rerum naturalium scriptores Graeci minores*, ed. KELLER, Vol. I, p. 27).

are also mentioned worms found in long-lying snow.¹ Antigonus, however, has here an essential addition, not met with in Aristotle or any other author; and this is that this fire animal occurs also in the furnaces of Carystus.² Now, we have seen that, according to Apollonius and Strabo, Carystus on Euboea was one of the principal asbestos-producing regions, and that from this locality the mineral was even named Carystius. Antigonus hailed from Carystus, and this fact may entitle us to the opinion that he was acquainted with the asbestos mined near his home town. True it is, he does not mention asbestos in the few fragments of his writings which are preserved; and there is nothing to indicate that in the above passage he means to include asbestos in the "smelting-furnaces of Carystus." The point which I wish to make, however, is that it was easy to read this interpretation into his text. An Oriental Greek, Syrian, or Arab, for instance, who knew that "Carystius" was a synonyme for "asbestos," could well have been reminded thereof while reading this passage, and the immediate mention of the salamander might then have led him to link the two notions together.³ In this manner we gain a satisfactory clew as to the probable origin of the salamander-asbestos assimilation, which certainly must have been brought about on the soil of Hellenism,

¹ Aristotle does not name the animal living in fire, but, judging from his description, it appears to be an insect. PLINY (XI, 36, § 119), who speaks of the same creature after Aristotle, calls it *pyralis* or *pyrotacon* (others read *pyrosta*), and describes it as a winged quadruped (*pinnatus quadrupes*) of the size of a larger fly. AELIAN (*Hist. anim.*, II, 2) styles it *pyripaenos* ("fire-born").

² Pliny, in harmony with Aristotle, places it only on Cyprus (in *Cypri aeræis fornacibus*), while Aelian gives no locality.

³ It is possible also that the *μῦς* of the Greek text (from *μῦς*, "fly") led to a confusion with *μῦς* ("mouse"), and gave rise to the conception of the salamander as a rat (Qazwini), mouse (Talmud), or rodent (Chinese). On the other hand, it must be admitted that this metamorphosis is capable also of a logical explanation: the salamander-lizard is smooth and hairless; when the salamander was made to yield asbestos, it naturally had to be transformed into an animal with hair-growth.

during the second or in the beginning of the third century A.D.

Besides the salamander of the character of a rodent, we receive another intimation as to the nature of this animal, which answers the classical notions. A work *Sung chi* 宋志 ("Memoirs of the Song Period"), by Shên Yo 沈約,¹ contains the following notice: "Blazing Island (Yen chou 炎洲) is situated in the southern ocean, and harbors the animal *ki* (or *kie*)-ku 狴狴. When it is caught by people, it cannot be wounded by chopping or piercing. They gather fuel, build a fire, bind the animal and throw it into the fire, and yet it will remain unscorched."²

The name for this animal, which is clearly differentiated from the rodent that follows, seems to be connected with some Malayan form underlying our word "gecko," described thus by YULE and BURNELL:³ "A kind of house-lizard. The word is not now in Anglo-Indian use; it is a naturalist's word; and also is French. It was no doubt originally an onomatopœia from the creature's reiterated utterance. Marcel Devic says the word is adopted from Malay *gekok* [*gêkoq*]. This we do not find in Crawford, who has *tâkê*, *tâkêk*, and *gokê*, all evidently attempts to represent the utterance. In Burma, the same, or a kindred lizard, is called *toktê*, in like imitation."⁴

¹ Quoted in *Ye K'o ts'ung shu* 野客叢書 by Wang Mou 王慤 of the Sung period (*K'o chi king yüan*, Ch. 27, p. 13). Regarding this work see WYLIE, *Notes on Chinese Literature*, p. 161. It was published in 1301.

² Then follows the story of the rodent-salamander mingled with the alleged bark-cloth asbestos: "There is, farther, the Volcanic Country, constantly enveloped by fire which is not quenched by rain. In this fire there is a white rodent. When the trees in the forests on this burning island have been wetted by rain, their bark becomes scorched; and when exposed to fire, it becomes white. The islanders gather this bark during several months, and weave it into cloth, which makes fire-proof cloth. Either the bark of the trees or the hair of the rodents may yield it."

³ *Hodder-Johnson*, p. 367.

⁴ "Some of the Borneo reptiles produce singular sounds. The commonest among them is a gecko, the *chickak*, which name imitates perfectly the cry which it produces. A much louder and more characteristic cry is that of *Gonioccephalus borneensis*, a large

The characters *ki-ku*, in this case, are chosen by the Chinese author only to imitate the sounds of a word like "gecko." As a rule, the animal *ki-ku* is regarded as a mammal. The word first appears under the Tang in the *Yu yang tsa tsu*, and is synonymous with *fēng lí* 風狸, *fēng mu* 風母 ("wind mother"), or *fēng shēng shou* 風生獸 ("wind-born beast").¹ On the other hand, the Chinese know a saurian, *ko-kiai* 蛤蚧, being a word-formation analogous to the Malayan names of the lizard, and, according to Chinese authors, imitative of the call of the animal.²

It thus appears that the rodent-salamander of the Chinese, after all, was a lizard like the salamander of the ancients; and the lizard character of the animal leaks out in the earliest account of the subject by Ko Hung, when he says that the animal lives in hollow trees; for it is the lizard who has acquired this habit. A. R. WALLACE,³ in describing the lizards of the Aru Islands, observed, "Every shrub and herbaceous plant was alive with them; every rotten trunk or dead branch served as a station for some of these active little insect-hunters."

The fact that it was not the Arabs from whom the Chinese received the salamander-asbestos tale is illustrated, from a negative

lizard which lives on trees and has a high and serrated crest down its back. The Malays call this lizard *log-go*, an imitation of its call-note, which is frequently repeated" (O. BRUCE, *Wanderings in the Great Forests of Borneo*, p. 35). In the *Encyclopédie van Nederlandisch-Indië* (Vol. IV, p. 400) the word is given as *toke*, which is peculiar to Sundaese; it passed also into the language of the Batak on Sumatra; in Malayan it is *tekek* and *tokek*; in Javanese, *tekek*. Compare Moro *logatak* or *talutak*, "lizard" (R. S. PORTER, *Primer of the Moro Dialect*, p. 45). In the same encyclopædia (Vol. I, p. 561) will be found a description of the genus and of the beliefs in its venomous property, which are very similar to those entertained by the ancients in regard to the salamander.

¹ See the texts of *Pên ts'ao kang mu*, Ch. 51 A, p. 20 b; and *Wu ti shao shi*, Ch. 10, p. 12.

² *Pên ts'ao kang mu*, Ch. 43, p. 6. The oldest text referring to it is the *ling piao lu* of the Tang (compare PRIEMER, *Denkwürdigkeiten aus dem Tierreiche Chins*, SBM. Wien, Vol. 60, 1875, p. 14).

³ *The Malay Archipelago*, p. 331.

viewpoint, by the absence in China of any specific reference to the phoenix, of which the Arabs make a great case (p. 319). Some Chinese works have a general reference to birds, but the coincidence is not perfect. Thus the apocryphal *Sou shên kî* 搜神記¹ has a volcano in the region of the K'un-lun, inhabited by herbs, trees, birds, and mammals, all existing in blazing fire and yielding fire-proof cloth.²

¹ WILK, *Notes*, p. 123. The passage is in Ch. 13, p. 3 (of the Wu-ch'ang print).

² A case of a different character may be mentioned in this place, as it reveals a very curious coincidence between a Chinese and an Arabic text. The interesting work *Tu kang tsu pien* 杜陽雜編, written by Su Ngo 蘇鶚 in the latter part of the ninth century, contains the following story (Ch. v, p. 1; edition of *Pai fan*): "During the year of the reign of the Emperor Shun-tsang 順宗 (A.D. 805) the country Kiu-mi 拘弭 [otherwise 拘彌, the territory of Keria; see CHAVANNE, *Documents sur les Tsin-kine occidentaux*, p. 138] sent as tribute a pair of birds invisible of fire (劫火雀一雄一雌). These birds were uniformly black and of the size of a swallow. Their voice was clear, but did not quite resemble that of ordinary birds. When placed on a fire, the fire was spontaneously extinguished. The Emperor, admiring this wonder, had the birds put in a cage of rock-crystal [rock-crystal being believed to be a transformation of ice and to have a cooling effect], which was hung in the sleeping-apartments of the palace. At night the inmates of the palace tried to set fire to the birds by means of burning wax candles, but entirely failed in damaging their plumage." Abu Ubaid al Bekri (1040—94) of Cordova (MAC GUCKIN DE SLANE, *Description de l'Afrique septentrionale par El-Bekri*, p. 43) has the following account: "Nous donnons le récit suivant sur l'autorité d'Abou'l-Fadi Djâfer ibn Youssef, Arabe de la tribu de Kelb, qui avait rempli les fonctions de secrétaire auprès de Moavia, seigneur de l'Ifrikiya: 'Nous assistions à un repas donné par Ibn-Onanemmon le Sanhadjien, seigneur de la ville de Cabes, quand plusieurs campagnards vinrent lui présenter un oiseau de la taille d'un pigeon, mais d'une couleur et d'une forme très singulières. Ils déclarèrent n'avoir jamais vu un oiseau semblable. Le plumage de cet animal offrait les couleurs les plus belles; son bec était long et rouge. Ibn-Onanemmon demanda aux Arabes, aux Berbers et aux autres personnes présentes s'ils avaient jamais vu un oiseau de cette espèce, et sur leur réponse qu'ils ne le connaissaient pas même de nom, il donna l'ordre de lui couper les ailes et de le lâcher dans le palais. À l'entrée de la nuit, on plaça dans la salle un brasier-faïen allumé, et voilà que l'oiseau se dirigea vers ce meuble et tâcha d'y monter. Les domestiques eurent beau le repousser, il ne cessa d'y revenir. Ibn-Onanemmon, en ayant été averti, se leva, ainsi que toute la compagnie, afin d'aller voir ce phénomène. Moi-même, dit Djâfer, j'étais un de ceux qui s'y rendirent. Alors, sur l'ordre d'Ibn-Onanemmon, on laissa agir l'oiseau, qui monta jusqu'au brasier ardent, et se mit à becqueter ses plumes, ainsi que font tous les oiseaux quand ils se chauffent au soleil. On jeta alors dans le brasier des chiffons imprégnés de goudron et une quantité d'autres

While the Chinese, in a somewhat masqueraded form, received the legend of the salamander, they never adopted this word, as did the Arabs and Persians. It was reserved for the Jesuit Father Ferdinand Verbiest (1623—88) to introduce the Chinese, in his *Kun yū t'ü shuo*, to an illustration of a European salamander under the title *sa-la-man-ta-la* 撒辣漫大辣, which he says occurs in the country Germania (*Je-érh-ma-ni-ya*) in Europe: "Its habitat is in cold and moist places, its temper is very cold, its skin is thick, and its strength is such as to extinguish fire; its hair is of mixed color, black and yellow; a black and spotted crest runs along its back down to its tail." The figure by which his note is illustrated shows a cat or fox-like mammal.¹

THEORY OF THE VEGETAL ORIGIN OF ASBESTOS.—In order to arrive at a correct appreciation of the complex notions developed by Ko Hung and Kuo P'ö regarding asbestos, we shall now turn our attention to another matter. In the first half of the third century A.D., K'ang Tai 康泰 and Chu Ying 朱應 were engaged in a mission to Fu-nan 扶南 (Cambodja), and on their return to China published two works in which were laid down their experiences during this memorable journey. Their record furnished to the compilers of the Chinese Annals a great deal of information on the ancient history

objets inflammables, afin d'augmenter l'intensité du feu, mais l'animal n'y fit aucune attention et ne se dérangea même pas. Enfin il sauta hors du brasier et se mit à marcher, ne paraissant avoir éprouvé aucun mal." Quelques habitants de l'Ifrikiya assuraient que, dans la ville de Ombé, ils avaient antedun raconter l'histoire de cet oiseau. Dieu seul sait si elle est vraie." In examining each for itself, we should certainly take both the Chinese and the Arabic story for an abstruse fable. Such a fire-proof bird most assuredly does not exist. On either side we are treated to the report of eye-witnesses. The two stories apparently are independent, although the subject is identical. After all, might this mysterious bird be an offshoot of the salamander-phoenix, restored to life by an overstrained imagination?

¹ *T'ü shu t'ü ch'üan*, xix, chapter "Strange Animals," *Ami* 4^{mo} 3, p. 9.

of that country.¹ In the article on Fu-nan, inserted in the Annals of the Liang Dynasty (502—556),² we meet a curious notice on asbestos with reference to a Malayan region, as follows: "It is reported that Fu-nan is bounded on the east by the ocean known as Ta-chang 大漲 ('Great Expanse').³ In this ocean is a great island on which the kingdom of Chu-po 諸薄 (Java) is situated. East from this kingdom is the island of Ma-wu 馬五洲.⁴ Going again over a thousand *li* in an easterly direction across the Ta-chang Ocean, one reaches Volcano Island.⁵ On this island there

¹ PELLLOT, *Bull. de l'Ecole française*, Vol. III, p. 275.

² *Liang shu*, Ch. 54, p. 3; likewise in *Nan shi*, Ch. 78, p. 3.

³ Corresponding to our Chinese Sea, extending from Hai-nan to the Straits of Malacca.

⁴ PELLLOT (*Bull.*, Vol. IV, p. 270) is inclined to identify this island with Bali by assuming a clerical error ("Ma-li" for "Ma-wu").

⁵ *Tse jan hao chow* 自然火洲 (literally, "the island of fire which burns of itself"). PELLLOT (*Bull.*, Vol. III, p. 265) has justly recognized that the reading "great island" 大洲 in *Liang shu* and *Nan shi* is an error for "fire island." Indeed, the text of *Nan shi* is quoted with the correct reading in the *Wei Ho* (Ch. 4, p. 3) of the Sung period, in an essay entitled "Asbestos." WILLIS, in his study *Asbestos in China* (p. 149), not consulted by Pelliot, translated the name by "spontaneous combustion great island." He accordingly accepted the wrong reading, and took the word *jan* in the sense of "to burn." The latter point of view is justified, as, for instance, the *Hsien lan* 玄覽 (*Ko chi k'ing yuen*, Ch. 27, p. 18) writes 燃火之洲. Which of the numerous volcanic islands of the Archipelago, one of the chief volcanic belts on the globe, should be understood by K'ang T'ai's "Volcano Island," certainly is difficult to guess. In my opinion, Timor stands a fair chance of claiming this honor. A. R. WALLACE (*The Malay Archipelago*, p. 5) observes, "To the eastward, the long string of islands from Java, passing by the north of Timor and away to Banda, are probably all due to volcanic action. Timor itself consists of ancient stratified rocks, but is said to have one volcano near its centre." Again on p. 7, "In Timor the most common trees are Eucalypti of several species, so characteristic of Australia, with sandal-wood, scasia, and other sorts in less abundance. These are scattered over the country more or less thickly, but never so as to deserve the name of a forest. Coarse and scanty grasses grow beneath them on the more barren hills, and a luxuriant herbage in the moister localities. In the islands between Timor and Java there is often a more thickly wooded country, abounding in thorny and prickly trees. These seldom reach any great height, and during the force of the dry season they almost completely lose their leaves, allowing the ground beneath them to be parched up, and contrasting strongly with the damp gloomy, ever-verdant forests of the other islands. This peculiar character, which extends in a less degree to the southern peninsula of Celebes and the east end of Java, is most probably owing to the proximity of Australia. The

are trees which grow in the fire. The people in the vicinity of the island peel off the bark, and spin and weave it into cloth hardly a few feet in length. This they work into kerchiefs, which do not differ in appearance from textiles made of palm and hemp fibres,¹ and are of a slightly bluish-black color. When these are in the least soiled, they are thrown into fire and thoroughly purified. This substance is made also into lamp-wicks which never become

south-east monsoon, which lasts for about two-thirds of the year (from March to November), blowing over the northern parts of that country, produces a degree of heat and dryness which assimilates the vegetation and physical aspect of the adjacent islands to its own. A little further eastward in Timor-laut and the Ké Islands, a moister climate prevails, the south-east winds blowing from the Pacific through Torres Straits and over the damp forests of New Guinea, and as a consequence every rocky islet is clothed with verdure, to its very summit. Further west again, as the same dry winds blow over a wider and wider extent of ocean, they have time to absorb fresh moisture, and we accordingly find the island of Java possessing a less and less arid climate, till in the extreme west near Batavia rain occurs more or less all the year round, and the mountains are everywhere clothed with forests of unexampled luxuriance." "The land mammals of Timor are only six in number, one of which is a shrew mouse (*Sorex tenuis*), supposed to be peculiar to the island" (*Ibid.*, p. 160).

¹ *Tsiao* 蕉麻. Palliot renders this by "scorched hemp" (*du chanvre roussi*), as if the reading were 焦. Wylie translates the term "raw hemp," but the word *tsiao* denotes a particular group of plants, the fibre-furnishing palms, and is co-ordinated with the word *ma* ("hemp"). Clothing of palm-fibres was particularly made by the aboriginal tribes of southern China, and known as *kung tsiao pu* 紅蕉布 (*kung tsiao* being a variety of the genus *Musa*; see the *Ch'i pu* 赤雅 by Kuang Lu, Ch. 1, p. 5, ed. of *Ch'i pu tai chui ts'ung shu*). The so-called Manila hemp of commerce is obtained from the Abaca (*Musa textilis*), the staple material for Filipino weavings (see C. R. DUNCE, *Descriptive Catalogue of Useful Fibre Plants of the World*, pp. 243-249, Washington, 1897; and the recent interesting article of C. ELATA, *Philippine Fiber Plants*, in the *Philippine Craftsman*, Manila, 1914, pp. 442-456). MARCO POLO (ed. of YULE and COEDICES, Vol. II, p. 124) mentions that the people of the province of Kuei-chon manufacture stuffs of the bark of certain trees which form very fine summer clothing. I do not believe with Yule (p. 127) that Polo here refers to the so-called grass-cloth, but he indeed means literally cloth woven from the bark-fibres of trees. The Miao in the prefecture of Li-p'ing, province of Kuei-chon, indeed make textiles from tree-bark, called bark-cloth (p'i pu 皮布; see *Ta Ts'ing i Lung chi*, Ch. 400, p. 4). According to Megasthenes (Strabo, xv, 64) the Sarmanes (Sanskrit *śramaṇa*, "ascetic") of India used to wear garments made from the bark of trees. The various kinds of hemp grown in China are briefly enumerated in *Chinese Jute*, published by Order of the Inspector General of Customs (Shanghai, 1891).

exhausted." This text presents a somewhat amazing effort at associating heterogeneous ideas. The real affair described is the well-known bast-cloth, common to the Malayan and Polynesian tribes, and peculiar to many other culture-areas, which assuredly is not incombustible; and this product is passed off as asbestos. The reference to the purification in fire and to the making of wicks doubtless proves that asbestos is intended. On the other hand, the resemblance of asbestos-fibres to hemp or flax is well-known.¹

The term "bark-cloth" is equivocal: it denotes principally two types,—one known under the Polynesian name *tapu*, in which the bast is flayed and pounded or macerated in water till it becomes soft and pliable;² and another, in which the bast-fibre shreds into filaments that may be spun and woven. As K'ang T'ai refers to the latter process, he must have had textiles of bast-fibre in mind. Ko Hung, as already stated, based his account of asbestos on K'ang T'ai's report, and was familiar with both beaten and woven bark-cloth; for he has established two vegetable varieties of asbestos,—one woven from the flowers of trees, the other prepared from bark.

¹ Hence our name "earth-flax" (Dutch *steenslas*, that is, "stone flax;" German *Flachstein*).

² This method is practised not only by the Malayo-Polynesian stock, but also by the negroes of Africa and the aboriginal tribes of America. Only a few instances from literature may be given, whose number might certainly be augmented by many others. W. MARSHALL (*History of Sumatra*, p. 49, London, 1811) says on this subject, "The original clothing of the Sumatrans is the same with that found by navigators among the inhabitants of the South Sea Islands, and now generally called by the name of Otahitian cloth. It is still used among the Hejangs for their working dress, and I have one in my possession, procured from these people, consisting of a jacket, short drawers, and a cap for the head. This is the inner bark of a certain species of tree, beaten out to the degree of fineness required, approaching the more to perfection, as it resembles the softer kind of leather, some being nearly equal to the most delicate kid skin; in which character it somewhat differs from the South Sea cloth, as that bears a resemblance rather to paper, or to the manufacture of the loom." In central Celebes the art of weaving is still unknown, and the tribes use only beaten bark cloth derived from a large variety of trees (P. and F. SARAVIN, *Reisnee auf Celebes*, Vol. I, p. 262, where the process is described). See also DUBOU, *l. c.*, pp. 98—101.

Is K'ang T'ai himself responsible for this fanciful combination, or did he merely reproduce a tradition overheard by him in Fu-nan? We know that K'ang T'ai, during his residence in that country in the first part of the third century, encountered a Hindu named Ch'en-sung 陳宋, who had been despatched there by the King of Central India in response to the mission intrusted to Su-wu 蘇物 by Fan Chan 范旃, King of Fu-nan. Thus K'ang T'ai availed himself of the opportunity of interviewing Ch'en-sung on all matters concerning India, and on his return to China published a work on the hundred and odd kingdoms of which he had heard. This valuable source of information has unfortunately perished.¹ India and Fu-nan entertained close commercial relations: diamonds, sandal-wood, and saffron being expressly mentioned in the T'ang Annals as products that were exchanged by India with Ta Ts'in, Fu-nan, and Kiao-chi (Tonking).² True it is, asbestos is not specified in the list of these products; but K'ang T'ai's story allows us a peep behind the scenes, for it incontrovertibly shows that asbestos was known in Fu-nan during the time of his sojourn. Certainly it could not have come from any Malayan region, where asbestos, as far as I know, is not found or utilized by the native population: it evidently arrived in Fu-nan from India. In A.D. 380 India presented to the Court of China an offering of fire-proof cloth;³ and this same event is alluded to in the Annals of the Ts'in Dynasty, in the life of Fu Kien 苻健 (337—384),⁴ in the statement that India offered fire-proof cloth.⁵ We remember that Pliny naturalizes asbestos in India, that Hierocles equips the Indian Brahmins with

¹ PELLIOU, *Essai*, Vol. III, p. 276.

² *T'ang shu*, Ch. 221 A, p. 10.

³ *Ssi tsu tso ch'uei ts'in*, Ch. 37, p. 11 (compare WYLLIE, *l. c.*, p. 143).

⁴ GILES, *Biographical Dictionary*, p. 230.

⁵ *Ts'u shu*, Ch. 112 (compare *Pien tsu lei pien*, Ch. 31, p. 6).

asbestos garments, and that the Arabs derived the mineral from Badakshan (pp. 320, 327): hence we are entitled to presume that asbestos was sometimes shipped also from India to Fu-nan in the beginning of the third century. This postulate is necessary to account for the fact that K'ang T'ai struck correct notions in Fu-nan regarding asbestos,—notions which agree with those of the classical authors. Asbestos products, however, were rare in Fu-nan, as in Hellas and Rome (PLINY, *rarum inventu*) and everywhere else, and the supply presumably could not keep pace with the demand; therefore the "malign and astute" people of Fu-nan¹ conceived the ruse to trade off Malayan bast-cloth under the name of "asbestos." This at least seems to me the best possible theory explaining K'ang T'ai's account, as far as the theory of vegetal origin is concerned. A specific example of what the Fu-nan asbestos was is offered by the interesting story of Duke Kie, discussed above, from which it appears that bast-cloth was really shipped to China under the label "asbestos." The merchants who offered this ware hailed from the Southern Sea, and this product must have been identical with what was shown K'ang T'ai on his visit in Fu-nan. Duke Kie's clever experiment also demonstrates that K'ang T'ai had merely fallen victim to a mystification.

The influence of the asbestos text in the Liang Annals is apparent not only in the Taoist school of the fourth century, as shown above, but also in several later works. Thus the *Hsuan lan* or *Yüan lan* 玄(元)覽, a work of the T'ang period (618—906),² says, "In P'i-k'ien 毘騫 there is the Island of Blazing Fire, producing a tree the substance of which can be woven, and which furnishes what is called fire-proof cloth." The geographical term "P'i-k'ien"

¹ Thus they are characterized in the Annals of the Southern Ts'i (PRÉLOOT, *Bull.*, Vol. III, p. 261).

² Cited in *Ko chi Ning yüan*, Ch. 27, p. 13.

occurs in the Fu-nan account of the Liang Annals as the name of a great island of the ocean, situated 8000 *li* from Fu-nan, and, according to PELLIOY,¹ seems to have been along the Irrawaddy and the Indian Ocean. The information of the *Hān lan*, of course, is deficient, as in the Liang Annals Volcano Island has nothing to do with P'i-k'ien, but is located far eastward, in the Malay Archipelago.

In the above translation of the passage of the Liang Annals, the kingdom of Chu-po has been identified with Java, the name being a variant of Shê-p'ò, by which Java became known from the first half of the fifth century. This conclusion is confirmed by a text ascribed to the *I yü chi* 異物志 and contained in the *T'ai p'ing yü lan*,² in which the Island of Blazing Fire is located in the kingdom of Se-tiao 斯調, which is doubtless a misprint for Ye-tiao 葉調. Now, we owe to the ingenuity of PELLIOY the identification of this name with the old Sanskrit designation Yavadvīpa,³ and this solution of the problem seems to me a well-assured result. Since the *I yü chi*, in its account of Volcano Island, depends upon the text of the Liang Annals, it seems equally certain that the Chu-po country mentioned in the latter is the island of Java. The passage of the *I yü chi* is worded as follows: "In the kingdom of Ye-tiao (Java) there is the Island of Blazing Fire, covered with a fiery plain, which lights up spontaneously in the spring and summer, and dies away during the autumn and winter. Trees grow there which do not waste, the branches and bark renewing their fresh appearance; in the autumn and winter, however, when the fire dies out, they all wither and droop. It is customary to gather the bark

¹ *Bull.*, Vol. III, p. 264.

² Ch. 820, p. 9 (edition of Jann Yüan, 1812). The text is quoted also in the commentary to *Sau kao chi*, *Wei chi*, Ch. 4, p. 1.

³ *Bull.*, Vol. IV, p. 265; and *T'oung Pao*, 1912, p. 457.

in the winter for the purpose of making cloth. It is of a slightly bluish-black color. When it is soiled, it is thrown into fire again, and comes out fresh and bright." ¹ The interesting point here is that the trees alleged to yield asbestos are set in causal relation with the fire of the volcano, which transmits to the bark its fire-proof quality.

Two other texts may likewise be traced to the Fu-nan account in the Liang Annals. The *Hsün Chung ki* 玄中記, written by Kuo 郭 ² of the fifth century, observes that "there is a volcano in the south, producing a tree which is used for fuel without being consumed; the bark, when woven, makes fire-proof cloth, of which there are two kinds." ³ The *Shu i ki* 述異記 ("Record of Wonderful Matters"), by Jên Fang 任昉, who lived in the beginning of the sixth century, annotates that "the fire of this active volcano in the south is extinguished in the twelfth month whereupon all trees push forth branches; while, when the fire rises again, the leaves drop, the same as in winter in China. When the wood is used for fuel, it is not consumed by the fire; and the bark, when woven, makes fire-proof cloth." This version must be connected with one handed down in the *Wên hien Lung k'ao* of Ma Tuan-lin, who erroneously says that the Volcano country (*Huo shan*) became known only at the time of the Sui (589—618), and then quotes the following from the "Customs of Fu-nan" (*Fu-nan fu su* 扶南土俗), by K'ang Tai: ⁴ "Volcano Island is situated somewhat over a thousand *li* east of Ma-wu Island. In the spring the rains set in; and when the rainy season is over, the fire of the volcano

¹ Compare WILKES, *l. c.*, p. 146.

² His personal name is unknown.

³ In agreement with *Pao-p'u-tse* (p. 322).

⁴ Compare PELLER, *Bull.*, Vol. III, pp. 275 and 276, note 2. My rendering is based on the text in *Yüan tien lei shan*, Ch. 233, p. 12.

breaks forth. The trees in the forests of the island, when wetted by the rain, have a black bark, but, when affected by the fire, the bark assumes a white color.¹ The inhabitants of the adjoining isles gather this tree-bark during the spring, and weave it into cloth; they make it also into lamp-wicks. When but a bit soiled, they fling the cloth into fire, and this means purify it. There is, further, a mountain, north of the country Ko-ying (written Kia-ying 加營)² and west of Chu-po (Java), 300 *li* in circumference. The active eruption of fire opens from the fourth month, and ceases in the first month. During the period of volcanic activity the trees drop their leaves, as in China during the cold season. In the third month the people betake themselves to this mountain to peel the tree-bark, which is then woven into fire-proof cloth."

The *Lo-yang sia lan ki* 洛陽伽藍記³ states that the country Kū-se 車斯 produces fire-proof cloth which is made from the bark of trees, and that these trees are not consumed by fire.⁴ The number of texts insisting on the vegetal origin of asbestos could doubtless be much increased; but those here assembled are sufficient to show that this doctrine, first traceable to K'ang T'ai, had obtained a permanent hold on the Chinese mind, despite the contradictory explanation based on the salamander. While the Chinese salamander versions unquestionably go back to Western traditions, I am not convinced that this is the case also with the vegetal theory. As set forth above (p. 306), I do not share the opinion of those who impute to Pliny a belief in a plant origin of asbestos.

¹ This observation, of course, relates in reality to asbestos.

² See PELLUCI, *Bull.*, Vol. IV, p. 275, note.

³ Records of the Buddhist Establishments in the Capital Lo-yang, written by Yang Hsiao-chi 楊衒之 in 547 or shortly afterwards (BERTSCHMIDT, *Bod. Sin.*, pt. 1, No. 483; and CHAVANNE, *Bull.*, Vol. III, p. 383).

⁴ *T'u shu tai ch'ang*, chapter on *Shu* (22a 1a), p. 11 b. Kū-se is perhaps identical with Kū-shi 車師, designating "Turfan-Dunhuang."

The tree-asbestos of the Alexander Romance and a Syriac work (p. 308) represents rather isolated instances which show lack of cohesion, and cannot be unduly emphasized. Asbestos filaments bear such a striking resemblance to hemp or flax fibres, that it becomes intelligible that the theory of their identity could have spontaneously been advanced in various parts of the world. Our own nomenclature of asbestos varieties is witness thereof.¹ In the following section I shall try to explain how this theory originated in Fu-nan.²

The Arabs and mediæval Europe, as already observed, were too much absorbed by the identification of asbestos with the salamander and phoenix to pay much attention to the idea of vegetal provenience. This view, curiously enough, loomed up in Europe in MARTINI'S *Atlas Sinensis*. It is told there that there is a kingdom

¹ The mountain-tree asbestos of the Chinese meets its parallel in our "mountain wood" or ligniform asbestos (*xyloïd*),—a variety of asbestos which is hard and close grained, generally of a brownish color, and often bearing an exact resemblance to petrified wood. At first sight it might easily be mistaken for the latter, especially when sufficient iron is present to give it the ruddy tinge of decayed wood or bark. Under the microscope, however, the crystal fibre is easily detected, as is also the absence of the vegetable cells which are always to be found in petrified wood (R. H. JONES, *Asbestos*, p. 14). Also the Chinese seem to have taken petrified wood for asbestos (see WYLLIE, *l. c.*, p. 152; and the writer's *Notes on Turghais*, p. 24).

² An analogous example in which the ancients were deluded in regard to a Chinese product, is presented by Chinese silk taken by several classical authors for thin fleeces obtained from trees (YATES, *Textileum Antiquarum*, p. 182). VARRO (*Georgica*, II, 121) has the verse, "And Seres comb their fleeces from silken leaves" (*Vellereque ut foliis dependant tenuia Seres*). STRABO (XV, 20) supposed the raw silk material to be a sort of byssus fibres scraped from the bark of trees. According to DIODORUS PLAGIARUS, the Seres comb the variously colored flowers of the desert land to make precious figured garments, resembling in color the flowers of the meadow (*Ibid.*, p. 181). PLINY (VI, 20) speaks of the Seres famed for the wool found in their forests; they comb off a white down adhering to the leaves, and steep it in water. The use of water to detach silk from the trees is insisted on also by SOLINUS and AMMIANUS MARCELLINUS, both of whom propound the vegetal theory of the origin of silk. PAUSANIAS of the second century denied that the threads from which the Seres make webs are the produce of bark, and described the silkworm with fair correctness.

in Tartary styled Tania, which produces stones; and above these, an herb which fire can never consume. When it is surrounded by flames, it reddens as though it would be entirely burned up; but as soon as the fire is out, it re-assumes its former gray or ash color. It is never very large or high; but it grows like human hair, and has almost the shape of the latter. Its consistency is very feeble and delicate; and when placed in water, it is noted that it turns into mud and is entirely dissolved.¹

THE VOLCANIC THEORY.—After having discussed the opinions of the animal and vegetal origin of asbestos, another question remains to be answered,—How did the idea of a volcano acting upon the formation of asbestos spring into existence and develop? Besides the volcanic theory propounded by K'ang T'ai, there are a few others that call for attention. The *Shi i ki*² records an embassy from the country of the Yü-shan bringing a tribute of fire-proof cloth to the Emperor Wu of the Tsin dynasty in the year 280. On this occasion the envoys of Yü-shan stated that "in their country there is a mountain containing veined stones (*wen shi* 文石) sending forth fire, the appearance of smoke being visible at the horizon throughout the four seasons. This fire was known as the 'cleansing fire.' When unclean clothes were thrown on these blazing stones, however big the accumulation of filth, they were purified in this manner, and came out as new." These clothes, of course, must have been of asbestos-fibres. This story is strange,³ and is hardly reproduced correctly in the Chinese text, as it is now before us. No reason can be discovered why asbestos-cloth should be cleaned in a volcanic

¹ A. KIRCHER, *La China illustrée*, p. 278 (Amsterdam, 1670). Kircher refutes this error; Martini's story is doubtless derived from the Chinese.

² Ch. 9, p. 4 (ed. of *Han Wei ts'ung shu*); compare WYLLIE, *l. c.*, p. 143.

³ In all probability it is a mere echo and bad digestion of K'ang T'ai's narrative.

fire, as any other ordinary fire would answer the same purpose. The true story must have been so worded that asbestos itself was produced by the volcano in question, and that the agency of the volcanic fire to which it was exposed was instrumental in rendering it impervious to fire.¹ We have here, then, a reference to an asbestos-producing volcano situated in the west of China. A burning mountain beyond the K'un-lun, upon which any object that is thrown is immediately burnt, is mentioned in the *Shan hai king*;² and we have seen that the *Sou shên ki* derives asbestos from this volcano in the K'un-lun.³ Chinese tradition, accordingly, is acquainted with two volcanoes producing asbestos,—one on an island in the eastern part of the Malay Archipelago, first reported by K'ang Tai; and another placed in Central Asia. From none of these territories, however, has asbestos ever become known to us: hence we are compelled to conclude that the volcanic theories of the Chinese records have not been prompted by immediate observation, but are the result of a series of speculative thoughts. These thoughts themselves, on the other hand, have a certain foundation in correct observation: it is in the manner of their concatenation that the speculative element comes in.

It may first be noted that from our scientific viewpoint even the direct association of asbestos with volcanoes is quite correct. In the widest sense of the word, we include under "asbestos" both pyroxene and hornblende; the latter most frequently, the former

¹ In a manner similar to that in which Pliny invokes the scorching heat of the tropical sun in the deserts of India as the cause of the fire-proof quality of the mineral.

² WYLLIE, *l. c.*, p. 146.

³ The *Sung History*, according to BERTSCHMIDT (*Medieval Researches*, Vol. II, p. 196), describes a volcano north of Urumtsi, which contains an ammoniac: "Inside there is a perpetual fire, and the smoke sent out from it never ceases; clouds or fogs are never seen around this mountain; in the evening the flames issuing from it resemble torch-light; the haze, from this phenomenon, appear also in a red color." Compare W. QUERLEY, *Oriental Geography of Etna Hantai*, p. 264.

more rarely, assuming an asbestiform character. Pyroxene, a very common mineral, is a constituent in almost all basic eruptive rocks, and is principally confined to crystalline and volcanic rocks. In different localities it is associated with granite, granular limestone, serpentine, greenstone, basalt, or lavas. Likewise hornblende is an essential constituent of igneous rocks.¹ Nevertheless we cannot grant the Chinese the merit of having made such an observation, which is due solely to our modern geological research. There is, moreover, no volcano in Asia which to our knowledge has ever yielded asbestos, nor do the Chinese pretend to have actually imported the material from a volcanic region. To them the volcano is a romantic place of refuge to explain the perplexing properties of asbestos. The introduction of the volcano must not be explained by reading into it the latest achievements of our geology, but from the thoughts evolved by the nature philosophy of the Chinese, nourished by the glowing accounts accruing from foreign countries. The question will be difficult to settle, whether K'ang T'ai owes his theory to himself and his Chinese environment, psychological and educational, or whether he borrowed it outright from the people of Fu-nan. I feel positive of the one fact, that the volcanic point in it was conceived in Fu-nan; for China has no volcanoes, and all Chinese accounts of such relate to countries abroad.²

¹ H. H. Jones, *Asbestos*, p. 21. Asbestos occurs in high altitudes. In Italy, for instance, it is rarely found at a lower level than five thousand feet, ranging from this upwards to twelve thousand; in fact, up to the line of perpetual snow. Hence the addition "mountain" is so prominent in our names for the varieties; as, "mountain wood," "mountain leather," "mountain paper," "mountain cork," "mountain flax."

² There is a negative criterion which illustrates that the Fu-nan tradition of the volcanic asbestos is not due to an impetus from outside. The Arabic authors make frequent allusions to the volcanoes of Java and neighboring islands, but never mention asbestos in this connection. Ibn Khordädhbeh, in his *Book of the Routes and Kingdoms* (844-845), tells of a small volcano in Jäba (Java), a hundred cubits square, and only of the height of a lance, on the summit of which flames are visible during the night, while it throws up smoke during the day. The merchant Seldiman, who wrote in 881, speaks of a

To K'ang T'ai, asbestos-fibres were of vegetal origin, the product of the bark of a tree, somewhat on the order of palm or hemp fibre. The ready-made textile was impervious to fire, and the mind eager to account for this wonder of nature settled on the theory that this property should have been brought about through the action of a natural fire. The material in its crude state had already habituated itself to fire, which had hardened it in such a manner that it could successfully resist all attacks of the element,—an idea also alive in Pliny's mind. People of Fu-nan who had occasion to visit certain Malayan islands with their belt of volcanic mountains observed the great luxury of vegetation which there prevailed, and its endurance despite volcanic eruptions. PLINY tells us of an ash-tree overshadowing the fiery spring of a volcano and always remaining green.¹ Chao Ju-kua, describing the action of Mount Etna, observes, "Once in five years fire and stones break out and flow down as far as the shore, and then go back again. The trees in the woods through which this stream flows are not burned, but the stones it meets in its course are turned to ashes."² If there were plants to outlive the ravages of volcanic destruction, the primitive mind argued that the absorption of subterranean fire had made them fire-proof. The fibres of asbestos, being fire-proof, were consequently derived from plants growing on volcanic isles, this association being facili-

Mountains of Fire near Jávaga (Java) which it is impossible to approach; at its foot there is a spring of cold and sweet water; the same is reiterated by Ibn al-Faqih (902). Masudi (943) reports a tradition regarding the Malayan volcanoes, according to which, during the thunder-like eruptions, a strange and terrifying voice resounded announcing the death of the king or chief, the sounds being louder or lower in accordance with the importance of the person (see G. FERRAND, *Relations de voyages arabes, persans et turcs vol. à l'Extrême-Orient*, Vol. I, pp. 28, 41, 59, 90, 110, 145; and CARRA DE VAXU, *Maçoudi, Livre de l'Asertissement*, pp. 90—92). Not one of these or any later Arabic writers mentions asbestos among the products of either Java or any other Malayan region.

¹ Viret æternæ hanc fontem ignem contogens fraxinus (II, 107, § 246).

² Translation of HIRTH and ROCKHILL, p. 154.

tated by the fact that their inhabitants manufactured fabrics of bark-fibres. That this hypothesis was formulated in Fu-nan appears plausible to a high degree; for, aside from the inward probability of this supposition, there is no such account in classical antiquity, Western Asia, or India. Pliny neither correlates asbestos with volcanoes, nor does he speak of asbestos in his discourse on the latter.

The report of K'ang T'ai, duly adopted by his countrymen, was then crossed by the salamander story inflowing from the Roman Orient, and the imaginative Taoists at once set to work to reach a compromise between the salamander-asbestos and the volcanic tree-bark asbestos. If the vegetable kingdom in certain places could survive a volcanic fire, and if, as stated by Western traditions, the salamander could exist in fire, there was in all the world no reason why the hardy creature could not stand a *volcanic* fire as well. This was the act of Kuo P'ò, who ejected the trees and replaced them by the salamander, that now made its home in the blazes of Volcano Island in the Malay Archipelago (p. 335). To the author of the *Sou shên k'í*¹ this compromise seemed too radical, and he arbitrated by restoring K'ang T'ai and bringing Kuo P'ò to honor. The vegetable as well as the animal kingdom, in his way of reasoning, can live in volcanic fires; and asbestos is either the product of the bark of these plants, or of the plumage of birds or the hair of beasts. Wang Mou of the Sung period accepted this verdict, and acquiesced in the belief that there is foundation for both these statements.²

DISCOVERY OF ASBESTOS ON CHINESE SOIL.—The Annals of the Later Han Dynasty, in the interesting chapter dealing with the

¹ Ch. 13, p. 3 (of the Wu-ch'ang print).

² WYLLIE, *L. c.*, p. 147.

southern Man (*Nan Man*) and the barbarous tribes in the south-west of China (*Si-nan I* 西南夷), have the following report: "Their contributions of tribute-cloth, fire-down (*huo ts'ui* 火毳), parrots, and elephants, were all conveyed to the Treasury."¹ WYLLIE² refers this account to the tribe called Jau-mang 冉駹,³ mentioned in this chapter of the Annals a couple of pages before; but it would seem that it relates in fact to the Pai-ma-ti 白馬氏,⁴ a tribe settled in Sze-ch'uan Province (north-east of Mao chou).⁵

The term "fire-down," employed in the text of the Annals, is explained by the commentary as being identical with the term "fire-proof cloth" (*huo huan pu*); that is to say, it is understood by the Chinese in the sense of asbestos. The word *ts'ui* is very ancient, and appears as early as the time of the *Shi king*⁶ with the significance of clothing woven from the down of birds or the fine undergrowth of hair of mammals.⁷ Such textiles woven from bird's down are ascribed by the Chinese also to the aboriginal tribes inhabiting southern China. E. H. PARKER⁸ has extracted from the *Ling nan i ou chi* the information that the chiefs of southern China select the finest down of the geese and mix it with the

¹ *Don Hwa shu*, Ch. 116, p. 11 b.

² *L. c.*, p. 130.

³ He wrongly transcribes the first character *Tau* (compare HIRTH, *China and the Roman Orient*, p. 35). The tribal name *Mang* is doubtless identical with the Mang 莽 studied by G. DAVIÑA (*Frontière sino-annamite*, p. 159); see also CHAVANNE, *Toung Pao*, 1906, p. 689.

⁴ *Ibid.*, p. 11 a.

⁵ Compare the interesting study of J. H. PLATH, *Fremde barbarische Stämme im alten China*, p. 315 (*SB. bayr. Akad.*, 1874). The Pai-ma-ti seem to have extended from Sze-ch'uan as far as into Kan-su (CHAVANNE, *Toung Pao*, 1905, p. 528).

⁶ LEGGE, *Chinese Classics*, Vol. IV, p. 121.

⁷ It is only the soft down of wild birds and wild beasts. The translation "habillement fait en laine," given by BIOT (*Le Tchouan-ti*, Vol. II, p. 6), is erroneous, as already pointed out by J. H. PLATH (*Nahrung, Kleidung und Wohnung der alten Chinesen*, p. 37); also CORVAUX has the wrong rendering, "étoffe en laine."

⁸ *China Review*, Vol. XIX, p. 191.

threads of white cloth to make coverlets, the warmth and softness of which are not inferior to those of soft floss cushions. In other words, Mr. Parker adds, eider-down quilts were known in China very long ago. D. I. Macgowan, in his highly interesting essay *Chinese and Aztec Plumagery*,¹ makes this contribution to the subject: "A work styled 'New Conversations on things seen and heard at Canton,' was written by a native of Su-chou who spent many years in that city in a mercantile capacity in the latter part of the last century. In a short section devoted to bird clothes, he says, 'There are several kinds of birds, the feathers of which are woven into a peculiar cloth by the Southern Barbarians. Among them is the celestial goose velvet,² the foundation of the fabric being of silk, into which the feathers were ingeniously and skilfully interwoven, on a common loom, those of a crimson hue being the most expensive. Of these wild goose feathers, two kinds of cloth were made, one for winter, the other for summer wear. Rain could not moisten them; they were called 'rain satin,' and 'rain gauze,' respectively. Canton men imitated the manufacture, employing feathers of the common geese, blending them with cloth. This fabric, though inferior in quality, was much cheaper.'"³ The tribe Nung 儂 in Kuang-si made a special industry of fabricating a tissue of cotton and goose-down.⁴ Kuang Lu 廊露, who spent several years among the Miao tribes in the service of one of the female chiefs,⁵

¹ *American Journal of Science and Arch.*, 2d ser., Vol. XVIII, 1854, p. 59. This important study has been unduly forgotten by the present, and I apprehend also by the preceding, generation. Neither Bretschneider nor Hirth, in their references to *so-fu*, have ever appealed to it, and acquaintance with this treatise would doubtless have led them to better results.

² Apparently a literal translation of *T'ien ngo jang* 天鵝絨 ("silk-floss of the wild swan"). I find this term mentioned in the *T'ien kuag t'ai zu* (Ch. 2, p. 46) as the name of a fur garment woven from down and feathers of hawks and wild geese.

³ G. Devèta, *Frontière sinuo-miamite*, p. 112.

⁴ Wylie, *Notes on Chinese Literature*, p. 59.

and wrote an interesting account of them in his book *Ch'í yu* 赤雅,¹ mentions the bird-feather textiles under the name *wiao chang* 鳥章 and discriminates between fine feather weavings styled *so-fu* 鎖袂² and coarse feather textiles termed "goose fishing-nets" (*ngo ki* 鵝罽³).

This evidence permits us to infer that the term *huo ts'ui*, as applied to asbestos coming from the South-western Barbarians,⁴ signifies "bird-down able to resist fire," and accordingly echoes a tradition current among these barbarians themselves. If nothing else, the peculiar choice of this term, which occurs in no other text, would amply support this opinion. The conclusion that the barbarians themselves worked this fibrous asbestos into a textile would of course not be forcible; at least, it is not imperative, and it is sufficient to assume that they had gotten hold of the raw material. When we further consider that parrots⁵ and elephants named in the Annals are local products, the conclusion may be hazarded that also asbestos was found in the same region. This impression is confirmed by a statement of Yang Shén 楊慎 (1488—1559) to the effect that "fire-proof cloth is produced in Kien-ch'ang 建昌 in Shu (Sze-ch'uan). This substance is as white as snow, and is obtained from crevices in the stones, being identical with what the Annals of the Yüan Dynasty term 'stone silk-floss' (*shí jung* 石絨)."⁶ An asbestos-producing locality in

¹ The preface is dated 1635. The passage is in Ch. 4, p. 5b of the reprint, in *Ch'ü fan chai ts'ung shu*.

² The Arabic word *ṣūf* صوف (P. WATTELL, *Essays on the Chinese Language*, p. 355).

³ The occurrence of the term in the Han Annals is an isolated instance.

⁴ In the text "trained birds," interpreted as parrots. Parrots are first mentioned in *T'ien Han shu* (Ch. 6, p. 6) under the name "birds able to speak" (*néng yán 能言鳥*). They are frequently referred to in the Annals as tribute gifts (for instance, *Kia T'ang shu*, Ch. 195, p. 9b; *T'ung Pao*, 1904, p. 40).

⁵ *Ko shi ting yüan*, Ch. 27, p. 18 (compare WILSON, *l. c.*, p. 163). Regarding the asbestos of the Yüan see below.

Sze-ch'uan is here clearly pointed out; and this agrees with the statement of F. P. SMITH¹ that asbestos is met with in Mao chow, Sze-ch'uan; and, as the Pai-ma-ti were settled near this region, they were very well within reach of asbestos.

It is not surprising that these "barbarians" had come into possession of asbestos; for this mineral is found on the surface in numerous places of this globe, and there are instances on record that it has accidentally been discovered even by primitive tribes. In 1770 P. S. PALLAS² reported that the Bashkir, a Turkish tribe in the region of Yekaterinburg, had discovered on a mountain a coarse kind of asbestos of yellowish-gray hue, being exposed to the air in large pieces split lengthwise, with brittle fibres which could be pulverized into a hard white wool. In the same area he visited also the Asbestos or Silken Mountain,³ giving a circumstantial account of the occurrence and mining there of the mineral, and mentioning also that an old woman had possessed the knowledge of weaving it into incombustible linen and gloves and making it into paper.⁴

The most remarkable utilization of asbestos on the part of a primitive tribe is made by the Eskimo. D. CRANTZ⁵ has the

¹ *Contributions toward the Nat. Med. of China*, p. 26.

² *Reise durch verschiedene Provinzen des russischen Reichs*, Vol. II, p. 134.

³ In Russian *Shalkovaya Gora* (*ibid.*, p. 184).

⁴ R. H. JONES (*Asbestos*, p. 37), not familiar with the interesting account of Pallas, represents the matter as though this site had been discovered only shortly before 1800, and even asserts that the Silken Mountain is said to be entirely composed of asbestos. It seems well out of the question that the Technical Society of Moscow, on whose report Jones falls back, could have made such an absurd statement, for Pallas had already said that the mountain consists principally of slate. His investigation is apt to refute also Jones's preposterous allegation that up to the present time little use has been made of asbestos in Russia and Siberia, "on account of the prevailing ignorance respecting its peculiar properties." As early as 1729 news was spread in Russia of an incombustible linen from Siberia. This referred to an asbestos-quarry discovered there about 1720 (P. J. VON STRAHLBERG, *Nord- und Seltliche Teil von Europa und Asia*, p. 311, Stockholm, 1750).

⁵ *The History of Greenland*, Vol. I, p. 56, London, 1767.

following observation on the occurrence and utilization of asbestos in Greenland: "The amiantus and asbestos or stone-flax are found in plenty in many hills of this country. Even in the Weichstein are found some coarse, soft, ash-gray veins, with greenish, crystalline, transparent *radii* shooting across them. The proper asbestos or stone-flax looks like rotten wood, either of a white-gray, a green, or a red cast. It has in its grain long filaments or threads, and about every finger's length a sort of joint, and the broken end is hard and fine like a hone. But if it is pounded or rubbed, it develops itself to fine white flaxen threads. When this stone is beaten, mollified and washed several times in warm water from its limy part that cemented the threads into a stone, then dried upon a sieve, and afterwards combed with thick combs which the clothiers use, like wool or flax, you may spin yarn out of it and weave it like linen. It has this quality, that it will not burn, but the fire cleanses it instead of lye or suds. The ancients shrouded their dead, and burnt or buried them, in such incombustible linen. They still make purses or such kind of things of it for a curiosity in Tartary and the Pyrenean mountains. Paper might be made of this linen. The purified filaments may also be used as we use cotton in a lamp. But we must not imagine that the Greenlanders have so much invention: They use it dipped in train (for as long as the stone is oily, it burns without consuming) only instead of a match or chip, to light their lamps and keep them in order." In the *Encyclopædia Britannica*¹ it is stated that "by the Eskimo of Labrador asbestos has been used as a lamp-wick." I do not know from what source or authority this statement comes; but, in view of the data of Crantz, it does not sound very probable.

Marco Polo's account has shown us that in the time of the

¹ Vol. II, p. 714.

Mongols asbestos was dug, that its preparation and weaving were perfectly understood, and that asbestos products were utilized in China. From this time onward we no longer hear of imported "fire-proof cloth," while the accounts of native asbestos increase. As early as the Sung period an attempt had been made in the Imperial Atelier to spin and weave asbestine fibres imported by the Arabs into cloth, but not with brilliant success.¹

A positive allusion to a locality where asbestos was found during the Mongol period is made in the biography of the treacherous Uigur minister Ahmed (A-ho-ma),² who, in a memorial to the Emperor Kubilai, stated that "Mount Pu-ko-ts'i 布格齊 produces asbestos, which is woven into cloth unconsumable by fire; an officer should be despatched to gather it." In the main section of the *Annals*³ the date of this memorial is fixed in the year 1267, and it is added that the Emperor indorsed it and issued an order in compliance with the request. The term for "asbestos" used in this text is *shi jung* 石絨 (literally, "stone silk floss"). We have already seen that Yang Shên (1488—1559) pronounced this term identical with what is generally known as "fire-proof cloth," that is, asbestos; and this identification is certain beyond doubt.⁴

¹ *T'ia wei shan ts'ung t'zu* (already quoted above, Ch. 5, p. 29 b).

² *Fikou shi*, Ch. 205, p. 2 a. He figures among the "Villainous Ministers." Marco Polo has told his story (ed. of YUEN and CONNEX, Vol. I, p. 415).

³ *Fikou shi*, Ch. 6, p. 12.

⁴ Giles, Schlegel, and the English and Chinese Standard Dictionary, have adopted it in this sense. The term with the same meaning is used in Japan (*Gazette, Produits*, p. 456). Also Chung Ning 張寧 of the Ming, author of the *Fung chun tsu yen* 方洲雜言, combines the "stone silk floss" of the Mongols with the ancient tributes of fire-proof cloth (*Pien tai lei piao*, Ch. 21, p. 6; WILHELM, I. c., p. 158). An analogous expression occurs in the form *shi ma* 石麻 ("stone hemp") in the *Tung ming ki* (*P'ei wen yüan fu*, Ch. 21, p. 4 b). This text would possess a veritable value if any dependence could be placed on this spurious work (see CHATANNE and PERROT, *Traité sinichinois*, p. 145), which may reach back to the middle of the sixth century. The passage in question, however, cannot be exactly dated, nor can the mysterious country Pu-tang be identified

In regard to the location of Mount Pu-ko-ts'i, Wylie, who has already called attention to this passage,¹ observed that it is difficult to identify it; but, "as asbestos is said to be found in Tartary, it is not unreasonable to suppose a coincidence in this also." G. SCHLEGEL² writes the name of the mountain 別怯赤山,³ translating this by "red mountains of Pie-kieh," which he places in Sze-ch'uan at 27° 12' latitude and 102° 53' longitude.⁴

A. WILLIAMSON⁵ seems to be the first European author to record the occurrence of the mineral in Shan-tung. Under the title "asbestos" he has the following: "This strange fossil mineral is found at King-kwo-shan, and also at Law-sze-shan. The natives use it for making fire-stoves, crucibles, and other fire-proof purposes. The fibre is good and very feathery, and by the admixture of cotton or hemp could be woven into articles of clothing. Such articles being exposed to fire and having all the alloy consumed, would

(it appears only in this passage, as shown by *Pien i tien*, Ch. 42, where Pu-tung is ranked among the unidentified countries of the East, solely with reference to this text). The allusion to asbestos is obvious. The text runs thus: "In the lake Ying-uo 影娥池 there are ships fastened by means of 'stone veins' (shí mǎ 石脈) worked into ropes. These 'stone veins' come from the country Pu-tung 瞞東, and are as fine as silk floss. They are extracted from the stone, and reeled like hempen cordage. The material is styled 'mineral hemp,' and is also made into cloth." The passage, at any rate, demonstrates that the mineral character of asbestos was known to the Chinese prior to the age of the Yüan, and possibly during the sixth century. The following text from the Persian geography of Ahmed Rîzi of the sixteenth century and relating to Egypt might eventually be enlisted for the explanation of the Chinese story. It is thus translated by C. HUAR (*Publ. de l'Ecole des Langues Orientales*, 5th ser., Vol. V, 1905, p. 121): "Dans certaines localités croît une herbe dont on fait les cordages des gros navires; elle donne une lumière à la façon d'une chandelle; quand elle s'éteint, on la fait tourner plusieurs fois et elle redevient lumineuse."

¹ *L. c.*, p. 152.

² *Nederlandsch-chineesch Woordenboek*, Vol. III, p. 1066.

³ This is the reading of the *Feng chien tea yen*.

⁴ It would be interesting to settle this question. Thus far, I have failed to find any indications in the *Yüan shi* regarding the site of this mountain.

⁵ *Notes on the Productions of Siam-tung* (*Journal China Branch R. As. Soc.*, Vol. IV, 1868, p. 70).

afterwards form fire-proof garments, such as ancient history speaks of, and such as are used in legerdemain. But the mineral would make most excellent fire-brick, which would be cheaper and more durable than any others. This is worthy of the consideration of the masters of the steamers on the coast." Unfortunately Williamson did not supply the technical name by which the substance is known to the Chinese. This defect was made good by F. P. SMITH,¹ who furnished the name *pu hui mu* 不灰木 (literally, "wood without ashes;" incombustible wood), and pointed out three localities where it is obtained,—Lu-ngan fu in Shan-si, district of Yü-t'ien in Tsun-hua chou in Chi-li, and Mao chou in Sze-ch'nan. The occurrence in Shan-tung was confirmed by A. FAUVEL,² who stated that "asbestos is common in Shan-tung; pounded and mixed with soapstone it is made into crucibles, and very pretty white Chinese furnaces; they are as light as cardboard, and stand any heat; these articles are extensively made in the capital of the provinces." In this account I have full confidence, because Fauvel was a good naturalist and observer, and because I saw and collected such stoves myself. These specimens, six in number,³ were obtained at Peking in 1903; and from the description given me by Chinese, there could be no doubt that they were really made of asbestos. This impression is corroborated by Professor L. P. Gratacap, Curator of the Department of Mineralogy in the American Museum of Natural History of New York, who states that these stoves "consist of a very finely triturated asbestos, with which (purposely or adventitiously I cannot say) there is an admixture of particles of

¹ *Contributions toward the Mat. Med. of China*, p. 26.

² *China Review*, Vol. III, 1875, p. 276.

³ In the American Museum, New York (Cat. Nos. 12427, 12662—12656). A specimen is figured in the *Catalogue of the Chinese Collection for the International Health Exhibition, London, 1884*, p. 82, and is defined there as "lime stove."

limestone; there is evidently also a smearing of clay, which to a slight extent pervades also the asbestiferous mass." As this substance is designated by the Chinese in Peking *pu hui mu*, it is conclusively proved that at present this term relates to a variety of asbestos, though this does not imply that it might not refer also to other lime-like minerals which in our opinion do not come under that category. These asbestos stoves, white in color, enclosed in frames of wood or brass and heated with coal-briquettes, are much utilized in Peking and manufactured about 80 *li* in the hills toward the west of the metropolis. I could not learn the name of the village or locality.¹

GERST² pointed out that *pu hui mu* denotes in Japan incrustations of carbonate of lime, which settle around branches of trees immersed in a current of mineral water. This may be; in China this term refers also to petrified wood.

In reading the notes of Li Shi-chên³ on the subject of *pu hui mu*, we are struck by the fact that he does not make any allusion

¹ The *Port Catalogues of the Chinese Customs' Collection at the Austro-Hungarian Universal Exhibition, Vienna, 1873* (p. 34) contain the following entry in the *Chifu* collection (repeated also in later Exhibition Catalogues of the Customs): "Asbestos, *Lung-tu-ai* 龍骨泥; place of production, Shan-tung; used for making fire-stoves, crucibles, etc.; the fibre woven with cotton or hemp is made into fire-proof materials." This information is spurious, and based on a misunderstanding of Williamson, who said that the fibre is good and very feathery, and by the admixture of cotton or hemp could be woven into articles of clothing; in fact, of course, it is not so woven by the Chinese, nor is it woven by them at all; at least, there is not the slightest evidence of this. Moreover, the term *lung-tu-ai* has nothing to do with asbestos, but denotes a medical preparation made from powdered dragon-bones, that is, bones of small animals.—How badly China is treated by our mineralogists, and even in otherwise complete monographs, is illustrated by the book of R. H. JONES on Asbestos. All that is said there in regard to China amounts to the one sentence (p. 32), "In China also asbestos occurs; but, apart from the manufacture of a coarse kind of cloth, we know little of any purpose to which it is there applied." I have never seen or heard of any asbestos-cloth now manufactured in China.

² *Produits*, p. 450 (see also p. 344).

³ *Pên ts'ao kang mu*, Ch. 9, p. 14 b. The translation given by F. DE MÉRIV (Lapidaires chinois, p. 85) is an incomplete abstract from the *Pên ts'ao*.

to the "fire-proof cloth;" he does not tell us that it is identical with what anciently was called *huo huan pu*. In fact, the traditions regarding the two products are entirely distinct. Certainly *pu hwei mu* refers to the mineral, and *huo huan pu* to the finished textile product.

There is another term, *yang k'i shi* 陽起石, which likewise refers to a variety of asbestos. It is difficult to see why SMITH¹ and GEERTS² were so much exercised about this identification, the one saying that "this variety of hornblende, or greenstone, is scarcely to be called an asbestos, as it is by some writers;" the other even going so far as to impeach some foreign authors on a charge of confusion. Both Smith and Geerts were insufficiently informed on the subject; for what they describe is certainly styled by us "asbestos," whether the Chinese specimens commercially be of good or bad quality. D. HANBURY³ identified *yang k'i shi* with "asbestos tremolite,⁴ silicate of lime and magnesia;" and this is what we still include under "asbestos." It appears that this stone is used only medicinally.⁵ The *English and Chinese Standard Dictionary*⁶ lists both *pu hwei mu* and *yang k'i shi* under "asbestos."⁷

¹ *L. c.*, p. 27.

² *L. c.*, p. 443.

³ *Notes on Chin. Mat. Med.*, p. 111 (*Pharmaceutical Journal*, 1861); or in his *Science Papers*, p. 218.

⁴ This is derived from Tremola, Mount St. Gotthard, where this variety was first found.

⁵ F. DE MÉLÉ, *Lapidaire chinoise*, p. 105; Biot in BAZIN, *Chine moderne*, p. 558.

⁶ Vol. I, p. 112.

⁷ It should be pointed out, however, that this meaning of *yang k'i shi* is of comparatively recent origin, the exact date of which remains to be ascertained. In the older texts cited by Li Shi-chên on the subject, nothing can be found to remind us of asbestos; and the early sources are so brief and obscure that they hardly allow of any positive conclusions. Thus the *Pis lu* merely refers to Shan-tung as the place of provenience by saying that *yang k'i shi* occurs in the hills and valleys of Mount Ts'i and in Lang-ye, adding that it is the root of mica (*yên mu*, "cloud mother") in the Cloud Mountains (*T'ün shan*). T'AN HUNG-KING states that this mineral, which is dug together with mica,

Marco Polo proved that he was possessed of a scientific mind when he exploded the salamander legend at the very moment that his Turkish acquaintance told him of how asbestos was dug and spun. The same case might be applied as a test for the scientific ability of the Chinese. True it is, the scholars of the Ming period clearly recognized the identity of the asbestos discovered under the Yüan with the imported fire-proof cloth of old. In vain, however, do we look in the literature of the Chinese for an awakening on their part, and a critical attitude toward the ancient legends, when the mining and working of the material within their boundaries has offered the opportunity ever since the days of the Mongols. The minds of Chinese scholars, at least those of the last centuries, were not trained to observation, and still less to logical conclusions based thereon, especially when these were apt radically to antagonize venerable traditions. The discovery of asbestos in China did not lead to studies by her scholars and to an overthrow of popular errors. On the contrary, the old book-knowledge persisted and triumphed. Wylie quotes the following from Chou Liang-kung 周亮工, an author who lived under the Manchu dynasty and had occasion to see a strip of asbestos cloth: "The ancients said that it was woven from the bark of a tree that grew on a burning mountain; while some say that it is from the hair of a rodent. The statement that it is from the bark of a tree, is the most

is very similar to mica, only of greater density; and that *gang k'ei shi*, dug in Yi-chow together with alum (*foe shi*), is a bit yellow and black in color, but that it is only the root of alum or mica, and that the true state of affairs is not yet ascertained. T'ao Hung-king, accordingly, was not positive about the true nature of the substance; it may originally have been a variety of mica or alum. At any rate, it has no practical importance for the historian of asbestos, as the Chinese never made any use of it in the manner of asbestos, but only took it internally as a medicine. It should be remembered that Apollonius has allusions to mica in his account of asbestos (p. 304), and that Dioscorides and Pliny liken asbestos to alum (pp. 303, 308).

probable, as its color is more like hempen than woollen fabrics." To the credit of the Chinese, however, it must be said that Ts'ai Tiao 蔡條 of the Sung period plainly rejected the legend of the animal origin of asbestos, though he failed to grasp the real nature of the substance. It will be remembered that this author, in his work *T'ie wei shan ts'ung t'an*, reports the importation on the part of the Arabs of asbestine cloth and asbestos raw material, and that the latter was woven into textiles in the Imperial Atelier of the house of Sung. These facts impressed the Sung scholars and set them to thinking. Ts'ai Tiao makes the positive statement that asbestos is not the hair of a rodent (非鼠毛也), and that the Chinese manufactures of his time testify to the fact that the old stories are wrong.

ADDENDA.—In the letter purported to have been addressed by Prester John to the Byzantine Emperor Manuel, and written about 1165, we read the following about the salamander yielding the material for asbestine garments (F. ZARNCKE, *Der Priester Johannes I*, p. 89): "In alia quidam provincia [of India, the territory of the alleged Royal Presbyter] iuxta torridam zonam sunt vermes, qui lingua nostra dicuntur salamandrae. Isti vermes non possunt vivere nisi in igne, et faciunt pelliculam quamdam circa se, sicut alii vermes, qui faciunt sericum. Haec pellicula a dominabus palatii nostri studiosè operatur, et inde habemus vestes et pannos ad omnem usum excellentiae nostrae. Isti panni non nisi in igne fortiter accenso lavantur." In this description the salamander is associated with the silkworm working itself an envelope that is reeled off and spun like silk, the material being incombustible and washed in fire. In view of the popularity of the stories about Prester John in the thirteenth century, the "salamander-silk," so frequently mentioned in the texts of that period, may well be traceable to the passage in question. In one of the mediæval manuscripts edited by Zarncke (pp. 167, 170), twelve men appear before King Manuel as ambassadors of the Presbyter, and impress him by cleaning their robes of salamander-silk in flaming fire. The Presbyter's letter is instructive for another reason; for it shows, as pointed out on p. 325, that the identity of the salamander's product with asbestos was not recognized in the early middle ages. The bread, it is told there, is baked in a vessel made from asbestos; the pavement is of green topaz, which by nature is cold, to moderate the heat of asbestos (*A pistoriibus panis efficitur et in clibano facto*

ex asbesto ponitur et coquitur. Pavimentum cibani est de topazio viridi, qui naturaliter est frigidus, ut caliditas asbesti temperetur. Alioquin panis non coqueretur sed combureretur. Tantus est calor asbesti). The walls of a furnace in the bakery (pistrinum) were likewise of asbestos (Est enim furnus factus exterius de lapidibus preciosis et aurum, interior caelum et parietes sunt de albesto lapide, cuius natura talis est, quod, semel calefactus sit, deinde inremissibiliter sine igne semper erit calidus). These passages concerning asbestos are wanting in the original text of the letter, and are interpolations occurring in manuscripts of the thirteenth century.

Fulstiaff, after many uncomplimentary remarks on Barciolph's personal appearance, exclaims, "I have maintained that salamander of yours with fire any time this two and thirty years; God reward me for it!" (SHAKESPEARE, *1 Henry IV*, III 3, 52). A lizard in the midst of flames was adopted by Francis I as his badge, with the legend, *Nutrisco et extinguo*, "I nourish and extinguish" (E. PURSON, *Animal Lore of Shakespeare's Time*, p. 320).

P. 339, note 1. The French translation of the text in question by d'Hervey-St-Denis has been rendered into English by S. W. WILLIAMS in his article *Notions of Fu-sang* (*J. A. O. S.*, Vol. XI, 1882, p. 98). It appears from this translation as though in the opinion of Duke Kio Volcano Island were situated in the land of the Amazons, about ten thousand li north-west of Fu-sang; nor is the cloth from the bark of the fiery tree mentioned in it. In the translation of Williams it runs thus: "In the middle of the kingdom is an island of fire with a burning mountain, whose inhabitants eat hairy snakes to preserve themselves from the heat; rats live on the mountain, from whose fur an incombustible tissue is woven, which is cleaned by putting it into the fire instead of washing it." In fact, the text, as reprinted in *T'u shu ts'i ch'eng*, is worded as follows: "Southward [from the country of Women or Amazons], arriving at the southern shore of Volcano Island, the inhabitants on Mount Yen-kun there subsist on . . . crabs and bearded snakes in order to ward off the poisonous vapors of the volcanic heat. In this island there are fiery trees, the bark of which can be wrought into cloth. In the blazing mound live fiery rodents, whose hair can be made into stuffs. These are incombustible, and when soiled, are cleaned by means of fire" (南至火洲之南炎崑山之上其土人食蜃蟹鬐蛇以辟熱毒洲中有火木其皮可以爲布炎丘有火鼠其毛可以爲褐皆焚之不灼汚以火浣). Yen-kun is an artificially coined term, which does not appear in other texts; it is apparently intended for "blazing (yen) Kun-lun." The exact meaning of 蜃 is not known to me; according to K'ang-hi it is identical with 蜃. The interesting feature of the above text is that the asbestos and salamander story is linked together with fabulous accounts of Fu-sang and the Amazons, and it will be remembered

that the report of a specular lens coming from Fu-sang is embodied in the same text (this volume, p. 198). If I expressed the view that this lens appears to have been of Western origin, and that Chang Yüe was familiar with traditions relating to Fu-man, India, and Fu-lin (p. 204), this opinion is confirmed by the present case in which Chang Yüe adapts to his purpose the Fu-nan version of asbestos in combination with the salamander story.

P. 351. The country Se-tiao appears in another text of the *I yü chi*, cited in the *Chang lei pên ts'ao* (Ch. 23, fol. 49). There, a plant is briefly described under the name *mo-ch'u* 摩腐 (according to G. A. STUART, *Chinese Materia Medica*, p. 499, unidentified), which grows in Se-tiao; the latter, it is added, is the name of a country. If it could be proved that *mo-ch'u* is the transcription of a Javanese name (and this is probable), the case would make an interesting contribution to the identification of Se-tiao with Ye-tiao.

NOTES ON THE RELATIONS AND TRADE OF CHINA WITH THE EASTERN ARCHIPELAGO AND THE COAST OF THE INDIAN OCEAN DURING THE FOURTEENTH CENTURY

PART II

BY

W. W. ROCKHILL.¹⁾

III.

Ceylon and Maldivé Islands.

53 (1). *Hsing ch'a shêng lan*, 25. TSUI-LAN SHAN (翠藍山).

Nicobar Islands.

These islands are a five days voyage north-west of Lung-yen islet (Pulo Rondo). There are seven passages of varying size through any one of which ships can pass.

Tradition says that formerly the Buddha Çakya while passing through the islands took a bath in the water when these (islanders) stole his mantle (*kachaya*). The Buddha took an oath, saying, "They shall hereafter shine in their bare skins among those who wear clothing." So it is that both males and females shave their hair and go without clothing, covering themselves both before and behind with the leaves of trees fastened together.²⁾ Neither have they any

1) See *T'oung Pao*, July, 1914, p. 419, March, 1915, p. 81.

2) Ma Huan's description of the Tsui-lan islands is contained in his chapter on Ceylon, see *infra*, 53 (1). It seems to me likely that Ma Huan and Fei Hsin included the Andaman Islands in their Tsui-lan shan, although there is no doubt that the Andamans were known to the Chinese of the early part of the thirteenth century (Hirth and Rockhill, *op. sup. cit.*, 147—148). The Buddha is said to have visited Ceylon where he preached the *Lakkhaviñña sūtra*. He presumably stopped on the Tsui-lan islands when on his way there.

rice, but they catch in nets fish and prawns, and these, together with a kind of banana and cocoa-nuts, form their food.

Though a ship may not have passed that way (previously), it may anchor off these islands (in safety). In the *jen-tzu* year of Hsüan-tê (A.D. 1432) on the second day of the tenth moon, wind and water not being favourable, (we) anchored off these islands for three days. The islanders came off in dug-outs bringing cocoa-nuts. The men and women in these boats were just as previously stated.

54 (1), *Tao i chih ho*. 57. SENG-KA-LA (僧加刺).

It is encircled by ranges of green hills while the sea spreads out all along it.

On the saddle of the hill there is a Buddhist temple, all solitary, in which are the mortal remains of the Çakya Buddha, and where the people have kept up the custom from of old of worshipping with perfumed candles as if it were the live (Buddha).

On the sea-shore there is a (flat) rock like a lotus-shaped pedestal on which there is the impress of the Buddha's foot, one foot four inches in length, seven inches broad and over five inches deep. Sea water collects in the foot print, but is not salty but sweet tasting, like must (醃). Those who are ill and drink it are made well; the aged who drink have their years prolonged.¹⁾

1) Seng-ka-la is, as already in Wang Ta-yüan's time, an obsolete name for Ceylon. Chou CK'ü-fei and Chao Ju-kua already used the name Hsü-lan (細蘭), and in the *Tsun shih* it is found written Chü-lan (急蘭). See Hirth and Rockhill, *op. sup. cit.*, 73-75. As used by Wang, the name Seng-ka-la applies only to Dondra hill near Belligam (Pih-to-li) at the southern extremity of the island, on which was the temple with the Sleeping Buddha. The impress of the Buddha's foot at this temple must not be confounded with that on Adam's Peak which is mentioned by Chao Ju-kua and by Ma Huan, who accepts the Mohammedan tradition that it was Adam's footprint.

It would seem that this cavity in the rock, or impress of the Buddha's foot was known as the "Italy Spring" (聖井), for here is what Wang Ta-yüan (97, Chün's)

The natives are over seven feet tall, their faces are dark brown, their bodies black, their eyes well opened, and with long hands and feet. They are sleek and hale, as is but natural to descendants of the family of the Buddha. Many of them live to over an hundred years of age. In the beginning the Buddha, in pity for this people who were in poverty and given to stealing, sprinkled them with the sweet dew (of his doctrine) and made them to become righteous, and caused the land to bring forth red stones (rubies). The natives dug them out of the earth; those they picked up with their left hand were for trade, those they found with their right hand they decided that in future (lit. after the Buddha) they would help those who had no stock to trade. So (through the pitying love of the Buddha) they have all been made well-fed, good and virtuous.¹⁾

Before the table of the Buddha (佛案前) there is a bowl (鉢盂) which is neither of jade nor of copper nor yet of iron. Its colour is dark brown (紫), and it is lustrous (潤); it rings like glass when struck. In the early days of the Yüan dynasty three (two?) missions were sent (by Kublai Khan) to get it.²⁾

In view of what has been said above (of this people) and al-

has to say: "At the base of the cliff beside the Holy Well there used to be a pagoda over an hundred feet high. The tee of the pagoda was originally plated with gold, but it has fallen down, and the stones are broken and green with moss and lichens. In (the ruin) there is a crane's nest over seven feet broad in which are two red-headed cranes, a male and a female. . . . The natives have put up a tablet here on which is written *Lao dao li* (老鶴里 "the village of the old cranes"). . . . Aged persons of over a hundred years are numerous (heretabout): they drink the water from the Holy Well."

1) The latter part of this paragraph is difficult to understand. I base my translation on the explanations furnished me by a Chinese friend, a scholar of good standing, but he was not well satisfied with his rendering. There seems to be some reference to this story in Friar Odoric's story of the pool in Ceylon from which precious stones were taken, the waters of said pool having been derived from the tears shed by Adam and Eve. "The King," he says, "taketh not those gems for himself, but for the good of his soul once or twice a-year he suffereth the poor to search the water, and take away whatever stones they can find." *Cathay and the way thither* (2^d edit.), II, 171.

2) See *supra*, Part I, p. 436 (*T'oung Pao*, Vol. XV, 1914).

though the Buddhist teachings are condemned by (us) Confucianists, when we see the god-like appearance (梵相) of this people and the honesty of their habits and customs, we cannot but believe (in the value of the Buddha's doctrine).

55 (1). *Ying yai shing lan*. 10. HSI-LAN (錫蘭). Ceylon.

In the Great Sea are the Tsui-lan shan (翠藍山, the Nicobar islands). There are three or four islands (山, in the group). The highest is called Su-tu-man (梭篤蠻).¹⁾ Sailing before the north-east wind they can be reached from Mao shan (帽山, Palo Web) in three days.

The people all live in caves. All of them, males as well as females, go naked like wild animals, so they grow no rice, but feed on yams, bananas, jack-fruit, and such like things, or on fish and prawns.

There is a foolish story to the effect that if they wore but a

1) Cf. Geo. Phillips, *JCHREAS*, XX, 211-214. It seems possible as suggested by Phillips, that Su-tu-man is an error for Yün (晏)-tu-man, Cantonese Antak-man, already used by Chao Ju-kua to designate the Andaman islands. This would confirm my opinion that the Tsui-lan shan of Ma Huan included the Andamans. Great Nicobar is called Sumbalong, and Phillips suggests alternatively, that Su-tu-man may be an error for So-ma-fan (梭馬蠻), a transcription of that name. *Ming shih*, 326, 5*, reads Su-tu-man.

Hsi yang shao kung tien lu, Q, 11* (Hsi lan shan) gives the following sailing directions for junks going from Su-ma-ta-la (Acheh, Sumatra): "Passing the Mao shan (Palo Web) and proceeding for 4½ watches one comes to Lang-yen hsü (Palo Hondo). Thence 10 watches, and one passes the Tsui-lan shan (Great Nicobar) where the water is 30 fathoms. It is also called So-tu-man shan. There are seven channels (門) and four ridges (門) and one lofty island (峻山) which is inhabited. After making the Tsui-lan shan in 19 watches the Ying-ko-tai shan (in Ceylon) and the Hill of the Buddha temple (near Belligam) are sighted. Then in (blank) watches one comes to Ya-li (牙里, Galle) at the foot of which is the Shên-niu reef (沈牛之礁, Dondra Head, or near it) on which the waves break noisily. Outside the water in the channel is 30 fathoms. Again (from here) 10 watches, and one reaches Pich-lo-li, known as the Anchorage of Hsi-lan (錫蘭國之港). Going thence north (by land) 50 li one reaches the Capital." Cf. F. W. Meyers, *China Review*, III, 224-225.

little piece of cotton to hide their nakedness, they would have ulcers and sores. This is because when anciently the Buddha crossed the sea, on coming here he took off his clothing and bathed, when the natives stole them. The Buddha thereupon cursed them. It is also commonly said that this is the country of Ch'ih-luan-wu (赤卵塢).¹⁾

Westward from the Tsui-lan islands for seven or eight days (watches) one comes in sight of the Ying-ko-tsui headland (鶯哥紫山), and in another two or three days (watches) one comes to the Buddha Temple Hill (佛堂山), Doudera Head, and to the first place (reached in) Ceylon, the port called Pieh-lo-li (別羅里).²⁾ At the foot of the hill by the sea-side there is a huge rock with the mysterious imprint of a foot which is greatly revered. It is about two feet long. Tradition says that it is the impress of the Buddha's foot. In the impress there is a spring which does not dry up. People dip up the water and wash their face and eyes, saying, "The Buddha water will make us clean." Such is the common belief of the people.

2) Ch'ih-luan-wu remains unexplained. In Cantonese it is pronounced CH'ih-lan wu (or u). See, however, Gerini, *Geog. of Ptolemy*, 386, n. 4, 413-415.

1) The text reads "seven or eight days," and "in another two or three days," but this is clearly a mistake as the sailing directions given above say that it took 14½ watches (say a day and a half) to go from the Mao shan (Pulo Weh) to the Nicobars, and 19 watches (say two days) from there to the headland called Ying-ko-tsui shan which must have been at or near the south-eastern extremity of Ceylon (certainly not Trincomalee, as suggested by Gerini, *Geog. of Ptolemy*, 386, n. 2). One of the earliest Buddhist shrines in Ceylon was at Doudera Head, see Taunent, *Ceylon*, II, 113.

Pieh-lo-li, or "village" (里) of Pieh-lo, is without any doubt, as first pointed out by Geo. Phillips, Belligamaine or Beligum and about thirteen miles from Galle. See *T'oung Pao*, 1914, p. 432. The sailing directions given above are, of course, wrong in making junka come to Galle before reaching Beligum and in the number of watches stated as necessary to sail that distance. It seems strange that our Ming authors knew nothing of Colombo which must have been an important port, judging from what Wang Ta-yün says of it in his days.

Chang Shêng's edition of Ma Huan's work says that the king's palace was 4 or 5 (40 or 50) li to the north of the place of the Buddha's Nirvāṇa.

In the temple there is a sleeping Buddha, the couch is made of eagle-wood and ornamented with all kinds of precious substances, and the dais is equally beautiful. The Buddha's tooth (and other relics) are also revered in this temple, which is said to be the place of the *nich-pan* (*nirvana* of the Buddha).

Travelling north-west by land from this place (*i. e.*, from Beligam) one then comes to where the king lives.¹⁾ The king is a So-li man (鎖里人, from Coromandel).

They believe in the Buddha, Çakyamuni (尙釋), and show great reverence to elephants and cows. They burn cow dung to ashes with which they smear their bodies. As to cows, they drink their milk but do not eat their flesh. When one dies, they bury it. He who kills a cow is punished with death, or he may redeem himself with a cow's head of gold. At dawn, both in the king's palace and in the dwellings of the people, they must mix up cow dung and smear the ground and worship the Buddha.

The great mountain (near) the capital (*i. e.*, Adam's Peak) pierces the clouds. (On it) is a great footprint two feet deep and over eight feet long. Tradition says that it is the footprint of A-jan (阿瞿, Adam), the first father of men; that is to say, Pan-ku (盤古).

The country is extensive, the people numerous. It equals the kingdom of Chao-wa (Java) in its wealth and plenty.

The people have the upper part of the body bare; as to the lower part, they have a piece of stuff (帨) held in place by a waistband. Their bodies are clean shaven, but they leave the hair of the head and wrap the head in a cotton cloth turban.

When they mourn their fathers, they do not shave their bodies. The women draw their hair into a knot behind and wrap around

1) The capital was at Gampola, see Tennant, *Ceylon*, II, 324.

themselves a piece of white cotton cloth. They eat and drink in private, and men may not see them do so.

Butter is a necessary ingredient in their food, and betel-nut is never out of their mouths.

They burn the dead and bury the bones.

The native products are *ya-hu* (鴉忽) of which there are three colours, blue, red, and yellow, and blue *mi-lau* stones (青米藍石). The two kinds of stones (called) *hai-la-ni* (昔刺泥) and *k'a-mo-lau* (窠沒藍) are found in the sand brought down by the water which falls on the slopes of the mountain (*i. e.*, Adam's Peak) and rushes down.¹⁾

The floating brightness of the rays of the sun on an island of the sea is the essence of the pearl oyster.²⁾ They have made a

1) Chang Shêng's edition speaking of the precious stones found on Adam's Peak, says, "there comes from out this mountain red *ya-hu* (雅姑), blue *ya-hu*, yellow *ya-hu*, blue *mi-lau* stones (青米藍石), *hai-la-ni* (昔刺泥) and *k'a-mo-lau* (窠沒藍)." See Bretschneider, *Medieval Researches*, I, 173—174. He says that in Arabic and Persian the name *yakut* is applied to what we call ruby and corundum. The Mohammedan authors distinguish red, blue, yellow, white yakuts. *Hai-la-ni* is said to be of a dark red colour, the name probably means "from Ceylon." *K'a-mo-lau* is said to have "an irregular colour; it is red, mixed with dark yellow. It is found in large pieces, and is the least valuable of the red stones. Cf. also Duarte Barbosa, *op. sup. cit.*, 208, 211, 215, 216. He says (215) that in Nassinga there is a sapphire called *eringuillam*. This may be the same as the *Hai-la-ni* of Ma Huan.

2) Chang Shêng's edition has, "It is a common saying that the precious stones (of Ceylon) were formed from the tears of the Lord Buddha (Cf. Wang Ta-yün's remarks on page 376 on the origin of precious stones in Ceylon). There is in the sea (along the coast of Ceylon) a strip of snow-white floating sand (a sand bank); the radiance from the reflection of the rays of the sun and moon on this sand is overwhelming, and the pearl oysters all gather together on the sand."

Hai gang chao kung tien lu, 2, 12 (Hsi-lan) says: "In the sea (of Ceylon) there is a noteworthy spot called the White Floating sands. When the sun shines on them, the radiance is overwhelming. The natives sail out to it, for there is great store of oysters there. Before the king's palace there is a pearl pond. Every three years they go and gather the pearls on the sands and put them in the pond. When they have rotted, they wash them and pick out the pearls." Chao Ju-kun says that cat's-eyes were thought by some persons to be produced by the reflection of the stars on the surface of the earth, and which had become hard by magic influence (Hirth and Rockhill, *op. sup. cit.*, 88, 329).

pond (in which) every two or three years they spread out oysters which officers guard; then the pearls can be sifted out and removed.

They have rice, sesamum, and lentils (菜豆), but no wheat. There are many cocoa-nut trees.

As to fruits, they have the banana, the jack-fruit, sugar-cane, melons, and esculents. There are also cattle, sheep, fowl, and ducks.

In trading they use a gold coin weighing 1 candareen 6 li, (also) Chinese musk, fine silk gauzes (綺縠), embroidered taffetas (綉絹), blue (and white) china-ware, copper cash, copper, iron, and camphor.

Its tribute (to the Court of China) consists in pearls and precious stones.

55 (2). *Hsing ch'a shing lan*. 26. HSI-LAN SHAN (錫蘭山).

This country can be reached from Su-mên-ta-la with a fair wind in twelve days. The territory of this state is extensive, the population dense. The riches they have amassed equal those of Chao-wa (Java). In the interior there is a high mountain which reaches to the sky. On the summit of the mountain are found blue *mei-lan* stones (青美藍石), yellow *ya-ku* stones, blue and red precious stones; they are washed down in the sands after heavy rains and picked up. In the sea near the coast (海旁) there is a pearl shoal (珠簾沙); here they are in the habit of going and gathering oysters with nets. These they pour into a pond, and when they have rotted, they wash them in a sieve and get the pearls.

On the sea-coast there is a flat stone on which is the impress of a foot over three feet long,¹⁾ and in it there is water which

1) *Hsi yang chao yang tien lu*, 2, 11^b (Hsi-lan) says that the foot print of the Buddha was over two feet long, following in this Ma Huan's statement.

never evaporates. They say that in ages gone by Çakya Buddha, when going to the Tsui-lau islands (the Nicobar islands) went up this mountain and left this footprint. Down to the present day it is worshipped. Below it there is a temple called (the place of) the nirvana of Çakya Buddha. His true body (真身 *i.e.*, the lifelike representation) lying on its side is in this temple. There are also relics (*parira*) in his resting place.

The climate is constantly hot; the people are usually well-to-do, and rice is plentiful.

The products of the soil are precious stones, pearls, ambergris, frankincense. The goods used (by the Chinese in trading) are gold and copper coins, blue and white porcelain-ware, coloured satins, coloured silk gauzes.

Men and women bind their heads and wear a long shirt, wrapping around their middle a piece of cotton stuff.

In the 7th year of Yung-lo (1409) Chêng Ho and others presented to this temple in the name of the Emperor gold and silver altar vases and a coloured pennant embroidered in gold. They also put up a stone tablet with an inscription, and bestowed imperial gifts on the king of the country and his chiefs.

The King A-lieh-k'u-na-erh (亞列苦奈兒) showed himself ungrateful, and formed a plot to injure (the mission). The admiral, the eunuch Chêng Ho, secretly made his preparations, and having previously issued orders, his messengers advanced rapidly and silently (*lit.*, "gag in mouth"). In the middle of the night the guns were fired; they dashed in and captured the king alive.

In the ninth year of Yung-lo (A.D. 1411) the king came to Court and made his submission, and sought the imperial favour. He was forgiven, and the kingdom was restored to what it had been originally. From that time the barbarians of the four quarters

have all been filled with fear, and have taken absolutely to cherishing virtue.¹⁾

56 (1). *Tao i chih liu*. 79. TA FO SHAN (大佛山).

Dondera Head.

The Ta Fo shan lies between Ya-li (趺里, Galle) and Kao-lang-pu (高郎步, Colombo).

In the *k'eng-tau* year of the *Chih-shun* period (A.D. 1330) in the tenth moon, in winter, for two days I was sailing along the base of this mountain. All night the moonlight made it as clear as day, the sea was calm, the water so clear that I could look down in it and see things floating about on the bottom. There was a tree in the waters which moved about (水國有樹婆娑). I pointed it out to the sailors and said to them, "Is this not a piece of pure *lang-kan* coral?" They replied, "It is not."

"Is it then the shadow of the (magic) *so-lo* tree in the moon?" (月中娑羅樹影者耶). They answered, "It is not."

Then I told a boy to get into the water and to fetch it. He pulled up a soft and slimy thing, and brought it out of the water when it became as hard as iron. I took it and examined it. It was barely a foot long. Then this branch curled up into a knot

1) *Hai gang chiao kang tien ta*, 2, 12s (Hsi-liao) says, "In the 9th year of Yang-lo (1411) the king (of Ceylon) A-li-ch-jo-na-erh (亞烈若奈兒, Wajayo Baka VI), who had previously broken off relations with the Chinese and had had his capital taken by assault by the mission (of Ch'ang Ho) when on its return (from the West), and who had then been made prisoner, was set at liberty by order of the Emperor. He chose his most worthy subject to be made king (of Ceylon), and in the 10th year (1412) an imperial decree made Pa-la-ko-ma pa-ssu Raja (不刺葛麻巴思刺查). In the 10th year Ch'ang-fung (1443) the then king sent his minister Na-pa-la-mo-li-li-ya (那把刺謨的里啞) and others with tribute to Court. In the 3rd year T'ien-shuo (1459) the then king Ko-li-mo-hsia hai-li-pa-chiao-la-jo (葛力坐夏昔利把交刺若, Sri Prakrama Boku, VI[7]) sent also a tribute mission." See Tennant, *Ceylon*, II, 416-417, 598-601.

(則其樹槎盤結), and, strange to relate, on the branch there was a half-opened flower with a single stamen, of a reddish colour, and like a half opened peony, or a lotus flower.

The sailors, holding candles, stood around looking on. Then they all began hopping about like birds (眾乃雀躍), laughing, and saying, "Why, this is the precious tree (i. e., the coral tree) which has bloomed (此瓊樹開花也). Truly, of the marvellous things of the sea there are some which are novel even to the Chinese; for over forty years we have never seen the like of this, and there is not a chance in a thousand that it could be found again, and now you, Sir, it is yours!"

The following day I composed a piece of poetry in the antique style in an hundred verses to commemorate the event (百首以記), and stuck it away in my sleeve to carry home. When An Yü (Yü An?), hsien-shêng of Yü-Chang (豫章君庵虞先生), saw it, he composed an additional piece of poetry. Down to the present day it has been kept in the Chün-tzu t'ang (君子堂, at Nan-chang) as a curious record (傳玩).

57 (1). *Tuo i chih li*. 65. KAO-LANG-FU (高郎步). Colombo.¹⁾

(Kao-lang-pu) is at the foot of the Ta Fo shan. The whole shore of the bay is nothing but jagged rocks (鹵股石) standing up or lying flat. The ground is damp, the soil is poor, and rice very dear. The climate is hot, the customs of the natives are boorish.

Sailors who have had the misfortune to be wrecked, and who have to stop for a while in this place, are fleeced by the ruler of

1) Wang Ta-yün is the only Chinese writer to mention Colombo. In a subsequent chapter (83) he writes the name 高浪阜. Kao-lang-fu. Ibn Batuta (IV, 185) speaks of Colombo (*Calcutta*) as one of the most beautiful and the largest towns in the island and as the residence of the vizir Prince of the Sea. From Colombo Ibn Batuta went in three days to Battuliah (Beligam?), where he took ship to the Coromandel coast.

whatever merchandize their junk may have on board, even the gold and jewels are sent to him. He looks upon them as sent by Heaven (曾以爲天賜也), and little he knows and cares that they were expected by the sailors' wives and children to save them from starvation and cold.

The natives, men and women, do up their hair in a knot and wrap around them a sarong of Pa-ch'ieh-na-chien (*i. e.*, Javanese) cotton cloth. They boil sea-water to make salt, and ferment the juice of the sugar-cane to make spirits.

They have a ruler. The native products are red stones (rubies), the same as those of Sêng-ka-la (*i. e.*, near Beligam).

The goods used (by the Chinese) in trading are Pa-tan (Shaliyat?) cotton stuffs, tin, samshu, rose-water, sapan-wood, gold and silver, and such like things.

58 (1). *Tao i chih ho*. 72. TI-SAN CHIANG (第三港, Gulf of Manár, Ceylon?).

It was formerly called Wei yüan (爲淵), but now it is called the "New Harbour" (新港口). The shore trends north and south; the inhabitants live scattered about. The soil, the climate, the customs, the people, are like those of (Sha-li)-pa-tan (Jurfattan).¹⁾

1) The name T'ien chiang does not occur in any other Chinese work I have seen of earlier or later date than that of Wang Ta-yüan. Chou Ju-kua knew that pearls were got from Ceylon but he does not mention where. Marco Polo (II, 331) describes the mode of fishing in the Gulf of Manár much as Wang does. He says the fishers started from a place in Ceylon called Battelar (Ibn Batuta's Battala) and then went sixty miles into the Gulf.

Quarte Barbosa, *op. sup. cit.*, 169-170, says, "Close to this island of Ceylon in the sea there is a sand bank covered with ten to fifteen fathoms of water, in which a very great quantity of very fine seed pearls are found, small and great, and a few pearls, and the Moors and Gentiles go there from a city which is called Sael, belonging to the king of Conlam, to fish for this seed pearl, twice a year by custom..."

In another chapter (*infra*, 69 (1)), Wang says that Sha-li-fa-tan, which was a place

Some eighty odd *li* away from the harbour at a spot in the sea called "Ta-lang pang-chu" (大朗蚌珠 *li*, "Great-bright oyster pearls"), here the waters are very rich in pearl oysters. When about to begin gathering them, the chief kills a human being and some tens of animals in sacrifice to the gods of the sea. Then they make choice of the day, the boats, and the men, to gather the pearls.

Each boat has a crew of five men; two to row, two to manage the ropes. The fifth man hangs around his neck a bag, the mouth of which is held open by means of a bamboo ring, and, providing himself with a safety-rope, he ties a stone to his waist and lets himself sink down to the bottom of the sea. Then with his hand he pulls up the pearl-oysters and puts them in his bag. In response to his pulling the rope, the men in the boat, who are looking after it, pull him and the bag of pearl-oysters on his neck, into the boat. And so they do until the boats are full, when they go back to the government station (官場), where, under the guard of soldiers,

"behind" Ku-li-to (Calicut), was the centre of the pearl fishing, that it controlled the fisheries of Ti-san-chiang. I think there can be little doubt that Sha-li-fa-tan is the Jurfatan of the Arabs said to be Cananore, but is it the Sael of Duarte Barbosa? This latter place is, I believe, usually identified with Shaliyat, but whether this identification is complete or not, I do not know. At all events the Ti-san-chiang pearl fisheries were without a doubt controlled from a town on the coast of Malabar. Ma Huan and Pei Hsin mention pearl shoals near Ceylon, but give no indication as to their location; they must, however, have been the same as the Ti-san-chiang of Wang. The pearl fisheries of the Gulf of Manér are principally carried on from the Madras side, the headquarters of the fishery being at Tuticorin. Mariabchikaddi, eight miles by sea south of Solavatur on the mainland of Ceylon and the coast of the Gulf of Manér, is one of the principal centres for the pearl fishery at the present time. See Kunz and Stevenson, *The Book of the Pearl* (New York, 1908), 129, 99, 107.

"Until 1895, one of the most novel features of the (Ceylon) fisheries was the employment of shark-charmers or "binders of sharks" (*kadal-kutti* in Tamil, *kai-banda* in Hindustani), whose presence was rendered necessary by the superstition of the Indian divers. . . ." *Ibid.* 115. Cf. Marco Polo, II, 331-332, 337, n. 2.

Tao i chih ho, *tsung ching*, 9, 9*, says that instead of *Wei yuen* (爲淵) we should read *Ma* (馬) *gwan*, as is proved by a manuscript copy of the text of the *Tao i chih ho* consulted by the editor.

(the oysters) remain for a number of days until the meat rots. Then they remove the shells and wash away the rotten meat by stirring them around in a sieve, by which means the flesh is got rid of and the pearls are left. They are then classed (聞) by means of a very fine sieve, and the officials levy as duty five-tenths of the whole, and the five-tenths remaining are equally divided among the boat crews, if indeed the gods of the sea have not claimed the divers, for many of them get buried in the bellies of rapacious fish. Alas! how sad a fate.

Some sailor men, who are so lucky as to get their shares of profits for some years, sell their pearls for money to do some trading, and go home, happy with the large profits they have made, which establish them in opulence; but such are few indeed.

59 (1). *Tao i chih liu*. 63. PEI LIU (北溜).

Northern Maldive Islands.

(Pei Liu) is in a group of about a thousand islets (嶼) and a myriad islands (島). When a ship sailing for the Western Ocean has passed near Sêng-ka-la (Balligam, Ceylon), the set of the tidal current rapidly changes, and (if) it falls in with a head wind (值風逆), it is driven at once to this country.¹⁾ The following year in the spring, with the south-east wind the ship proceeds again northward. Around all the Liu (islands) there are in the waters

1) This is, I believe, the first clear reference to the Maldive islands to be found in Chinese literature. The name Liu (溜 or 溜) given them by the Chinese, and which means a "current," is due to the currents of the Maldives which run for six whole months to the east and six to the west. François Pyrard, *Voyages* (Hakluyt Soc. edit.), I, 101, says, their currents are called *symmes*, they "run now to the east, now to the west, through the island channels, and in other parts of the sea, six months one way and six months the other; and not six months for certain either way, but sometimes more and sometimes less, and this is what damns them, and usually comes the loss of their vessels," which, as he explains further on (Ibid. 237) got caught by the sudden change of the current from east to west or from west to east.

rocky ledges with teeth as sharp as the point of a knife (石槎中牙利如鋒刀), which no vessel can withstand.¹⁾

The native products are cocoa-nuts, cowrie shells (索貳子), dried fish (魚朝), and large cotton handkerchiefs (大手巾布).²⁾

Every sea-trader takes one shipload of cowries to Wu-tieh (Orissa?) (or) Péng-ka-la (Bengal), where he is sure to exchange it for a shipload of rice and more, for these people use cowries as money, and a very ancient style of currency it is.

59 (2). *Ying gai shêng lan*. 14. LIU-SHAN TIEH-KAN (溜山牒幹).

It is a little country surrounded on all sides by the sea, scarcely more than (sand) banks (僅如洲渚). It is called Tieh-kan (牒幹). It has no walled towns or villages; the people live scattered over the islands.

To the west in the sea there is a gate of rocks like a city gate.

There are eight large islands all bearing the name of Liu (溜), and they row in boats from one to the other. The rest are (called) the "Little Liu" (小溜), they are approximately three thousand in number, and are (also) called the "three thousand (islands) of the shallow waters" (弱水三千者).³⁾

1) See *supra*, II (1), n. 1. Pylard, *op. sup. cit.*, I, 93, 95, says, the Maldives were divided into thirteen provinces or *atollons*. The natives informed him that there were 12000 islands. The title of the king was "King of thirteen provinces and twelve thousand isles."

2) See *supra* the description of the Maldives by Ma Hsueh, and for the Chinese names of the principal atolls the description of Pei Hsin and the footnotes. The term used here and in other passages of his book by Wang to designate cowrie-shells, *viz.*, *so pei-tâ* "strung cowrie shells," seems to be unusual. Ma Hsueh calls cowries *hai-pai* (海貳); and Chan Jo-kuang called them *pei* (貝) and *sh'â pei* (齒貝). See also *infra*, 61 (1).

3) Tieh-kan appears to be Tarakan in Houwanda atoll, in latitude 2° 7' N., the northernmost island of the Maldives proper. See Bell's note to Pylard de Laval, I, 329, n. 1. See also Iku Hatuta, *Feyages*, IV, 110—112. He says, "there were about two thousand islands in the group. About one hundred of these are placed in a circle, and this group has an entry like a gate, and ships enter only by it." Elsewhere (IV, 112) he mentions the little boats of the islanders which he calls *canôdier*.

The people (on the little islands?) all live in caves. They do not know of pulse and grain (菽粟), but only eat fish and prawns. They have no clothing, but hide their nakedness before and behind with leaves. When vessels are driven by the wind and get in among the (little) Liu (islands), as the water is shallow, they are lost and sink, so sailors are on the sharp look-out for them.¹⁾

In the kingdom of Tieh-kan all are Musulmans. The habits and customs are virtuous and good, they follow the precepts of their religious teachers. Their occupation is fishing. They like to plant cocoa-nut trees. The complexion of the men is rather dark. They wear a white turban and wrap around their lower parts a small piece of stuff (帨, *lit.*, "a handkerchief").

The women wear their hair short and also wrap around the lower part of their bodies a small piece of stuff. A larger piece of stuff (大帨) conceals their faces.²⁾ In their marriage and funeral ceremonies they follow the rites of their religion.

The climate is constantly as hot as summer. The soil is poor and rice scarce. They have no wheat. In trading they use silver coins.

The native products are laka-wood and the cocoa-nut (tree); its bark can be twisted into rope, its timber made into ships, and its sap used for smearing them black so that they are as strong as if made with iron nails. As to ambergris, in its natural pure state it is worth its weight in silver.

They gather cowrie-shells and sell them to Ko-la in Hsien-lo (暹羅葛刺, Kelah in Siam), where they are used as money.³⁾

1) The *Batata* (IV, 112) says that no grain grows on the islands except in the region of Suweid, where grows a kind of millet which is transported to Mihal (Mabé). In Chang Shüang's edition the last phrase of this paragraph reads, "If (a junk) fall in with a bad wind and sea, the skipper loses his bearing by the needle and loses his course, and the boat when among the Liu islands gets into the shallows and will ultimately certainly sink. It is a place to keep a sharp look-out for."

2) Cf. *Don Batata*, *op. sup. cit.*, IV, 122—124.

3) On ambergris in the Maldives, see *op. cit.*, p. 332, note, what the *Hsi yang chiao lang tien* has to say on the subject. Cf. *Chu fan chih* (de Hirth and Rockhill, *op. sup.*

They slice sharks' flesh (鯨魚) to sell to the neighboring countries; it is called *lin-yü* (溜魚, i. e., "Mahlive fish"). They weave silk handkerchiefs very finely; they weave also gold (embroidered) handkerchiefs, which the men wrap around their heads.¹⁾

They have cattle, sheep, domestic fowl, and ducks.

59 (3). *Hsing ch'a shêng lan*, 27. LAU-SHAN YANG KUO (溜山洋國).

From Pieh-lo-li (別羅里, Belligam) in Ceylon going southwest with a favourable wind one can reach these islands in seven days.²⁾ There are in the sea three rocky natural gates (天巧

chü, 131, 237). Concerning cowries, Ibn Batuta (IV, 121) states that an hundred cowrie shells (*naid*) were called in the Maldives *ayūh*, seven hundred *fal*, twelve thousand *so'fa*, and one hundred thousand *ba'ū*. Four *ba'ū* were exchanged for a gold dinar, but they varied in value, so that sometimes twelve *ba'ū* went for a dinar. See also François Pyrard, II, Pt. 2, 444, and *Tao i chih ho*, 84 (P'eng-ka-la, *ch'fa*, 60 (1)).

The coin of the Maldives was called *laris*, and in Pyrard's time a *laris* was worth 12000 cowries. See Pyrard, I, 232-233.

1) Ibn Batuta (IV, 112) says, "The people's food consists in a fish resembling the *tyrin*, and which they call *kūh al-mar*. They cut each fish into four pieces, cook it slightly, after which they put it in palm leaf baskets and hang it up to smoke. It is exported to India, China and the Yemen." Cf. also Pyrard, I, 240, II, Pt. 2, 434 et seq. Also Yule and Burnell, *Glossary*, 223, a. v., *coddy mard*. "This," they say, "is the dried bonito which has for ages been a staple of the Maldivo Islands. It is the Maldivo *kala-kūh-mā* ('black-bonito-fish'). Ma Huan calls this fish *chiao* which according to all dictionaries is the shark. He may have taken the bonito for a variety of shark which this tunny or mackerel resembles in shape. Large sharks are common, however, in the Maldives. See Pyrard, II, 349-350. It will be noted that the *Hai yang chao tang tien* calls the fish from which *coddy mard* is prepared the *ma-chiao*, which may be a name of the shark, but as to this I am not positive.

Pyrard (I, 241) says that there was much trade in the Maldives "with cloth of cotton and silk, which is brought to them raw, and by them worked up. They do not make white cloth, but only patterned and figured, and in small pieces of an arm's length and a half in width for their dress, and other kinds for the women, and for turbans, all exceedingly beautiful and fine."

2) Chang Ch'ung's edition of Ma Huan's book begins the chapter on *Liu shan* thus: "Sailing from So-mén-ta-la and keeping a southwesterly course after passing Little Mao shan (on S. coast of Pulo Weh?) with a fair wind one can reach in ten days this country whose foreign name is *Tiuh-kau*." Farther on he gives the names of the eight principal

石門), which face each other from afar like walls; between them junks can pass.

There are eight Liu shan, which are: Sha (沙) Liu, Kuan-hsü (官嶼) Liu, Jân-pu-chih (人不知) Liu, Ch'i-lai (起來) Liu, Ma-li-ch'i (麻里溪) Liu, Kia-p'ing-nien (加平年) Liu, Kin(kia?) (and) An-tu-li (加安都里) Liu. These eight places are scattered over the Sea of Liu (溜洋).

They cut into pieces a big fish, dry it in the sun, and use it as food in place of grain.

Men and women do up their hair in chignon (*lit.*, fist); they wear a short shirt and a cotton sarong.

In their usages they are violent.

Ambergris is found here. The goods used (in trading here) are gold, silver, silks, porcelain, grain, and such like.

Their rulers, touched by the kindness of our Holy Emperors, are constantly sending tribute.

It is said that there are also three thousand eight hundred odd Liu shan, which are also spoken of as the "Three thousand (islands) of the Shallow Sea" (弱水). There are (on them?) people, who nest in trees or live in caves, who do not raise grain, and who derive their food solely from fish and prawns. They wear no clothing, but string together leaves which they hang around them, before and behind.

islands, all of which he says have rulers and trading ships. The names he gives these islands do not differ very materially from those found in Pei Hsin's text except for the last three which he says are Kin-kia (加加), An-tu-li (安都里), and Kuan-jai (官瑞). I have no explanations to offer of these names, some of which appear to be purely Chinese while others are transcriptions of native(?) names. These names occur on Phillips' XVth century Chinese map. He suggests (*J.C.B.R.A.S.*, XX, 222-223) that Kuan-hsü "The ruler's island" is probably Maï, the seat of the sovereign of the Maldives, that Ma-li-ch'i is the Isola di Malicut of Coronelli's Atlas, that Ssü-lu (沙刺 Pei Hsin's Sha) is Suavia. Kia-kin, he suggests, is probably one of the group of islands called by Coronelli Isola di Divanduran. As to An-tu-li, he places it in this same group and says it has the same latitude as Calicut.

If a trading junk through (stress of) wind should fall into this desolate place, men and junk will never get back again.¹⁾

1) The chapter of the *Hai yang kao kung tien* in contains much information, not found in the other Chinese works of this period; it reads as follows:

"Liu shan is some 2000 li south-west of Hsiao miao (小帽, Pulo). Going from Bengal (one sails in a generally southern direction until the point in Ceylon called Ying-ko-tsu is sighted), after which in five watches one sights the inlet of T'ieh-chên (鐵砧). Then seven watches, and one sights the waters of the place of the relics of the Buddha (佛舍座之水, near Belliguan). Again five watches, and one sights the big mountain of Yali (牙里之大山, Point de Galle?), from whence one makes the island of Lâu Kung (Malé, the capital island of the Maldives, 溜宮之嶼) and reaches the country (of Lâu shan).

"This country cushions on the sea on every side. A strong island (倚山) has been made the capital which is called T'ieh-shan (牒幹). High and low they are all Musulmans, and their marriage and funeral ceremonies are according to this religion. The customs and usages are honest and good. The men wear a white cotton turban and wrap around their lower parts a gold (embroidered) piece of stuff. The women veil their heads, wear a short upper garment, and, like the men, wrap around their lower parts a piece of stuff. Their skin is uniformly black. The climate is constantly torrid.

"In their trading they use silver coin (*Note to text*: They weigh 2 candarins 3 li standard weight.) Their salable goods are fish and cowries. Their crops consist in rice and wheat. Their live stock comprises cattle, sheep, fowl, and ducks. They all have groves of trees; in the centre cocoa-nut trees, as the banler, rose-wood (花梨). Their boats are not clamped with iron, but tied and bound with cocoa-nut fibre cord. They are caulked with molled ambergris (龍涎鎔). Great is the quantity of ambergris that they get at the Lâu islands. There are great numbers of coiled-up dragons among the rocks of these islands. In the spring they vomit spittle which flocks of birds collect, and schools of fish suck it up. The yellow kind is like fish glue, the black like *ma-sha* (? 五靈), the white like medicine (? 藥). When heated, its odour is rank. It is also procured from the bellies of fishes in balls as big as a bushell measure. It is sold by the ounce weight, an ounce bringing 12 gold coins. A catty is worth 192 gold coins.

"They gather cowrie shells (海貲), pile them up, and let them rot. They catch also *ma-sha* (馬駁) fish, scale it, and dry it in the sun, and store it away for the traders, who come to get it for the market of Hsien-lo (Siem) and Pang-ko-la (Bengal) (*Note to text*): In the 5th year of Yung-lo (1407) (the king) sent a minister to Court with articles of tribute."

Hing shih, 300, 10, says that Ch'ing Ho first visited the Maldives on his mission of 1412; he went there again during his mission of 1430. In 1435 its king Yusuf (I-sa-fa, 亦速福) sent tribute to Court, and subsequently three times when the mission came with one from Ormuz.

HANG-CHOU TO SHANG-TU

A.D. 1276

BY

A. C. MOULE.

The following itinerary, giving the bare dates and places between 臨安 Lin-an (杭州 Hang-chou) and 上都 Shang-tu (開平 K'ai-p'ing) is extracted from the diary of 嚴光大 Yen Kuang-ta, a native of 紹興 Shao-hsing, which forms the ninth chapter of 錢塘遺事 *Ch'ien-t'ang i shih*, a miscellaneous collection formed by 劉一清 Liu I-ch'ing of Lin-an who seems to have lived at the end of the thirteenth or at the beginning of the fourteenth century. It is hoped that it may be of some interest to students of Marco Polo and other Western travellers of that date; and a few such foreign itineraries which cover part of the same ground are added for the sake of comparison. The edition of the *Ch'ien-t'ang i shih* used occupies the first two volumes of the twelfth section (第十二集) of the 武林掌故叢編 *Wu-lin chang ku t'ung pien* and was printed at Hang-chou in 1887 by the late 丁松生 Ting Sung-shêng, probably from an old manuscript copy in his library ¹⁾.

Yen Kuang-ta was one of the two diarists (日記官) attached to the party of Sung dynasty Officials who accompanied their

1) Cf. 善本書室藏書志 *Shan pên shu shih ts'ang shu chih*, c. viii, fol. 10 v°: 錢塘遺事十卷舊鈔本趙輯甯藏書.

Empress Dowager to the court of Khubilai after the fall of Hang-chou in 1276, and so there is reason to suppose that his information regarding the dates and stages of the journey is trustworthy. Some of the cases where the corresponding dates in the 元史 *Yuan Shih* differ from those of Yen are noticed below. The western dates given are derived from P. Hoang's *Concordance des chronologies etc.*, the first day (25 February, 1276) being in the original 德祐丙子二月初九日 "the 9th day of the 2nd month of the year *ping-tzu* in the Tê-yu reign".

THE ITINERARY

A RECORD OF THE JOURNEY OF THE SUPPLIANT ENVOYS

祈請使行程記

- (fol. 2 v°) 25 February — Left the 天慶觀 *T'ien-ch'ing kuan*, passed out of the 北關 *Pei-kuan* Gate [i. e. the north-west Gate still so called], entered a boat and stopped for the night by the 北新 *Pei-hsin* Bridge [still so named, in the north suburb].
- 26 February — by boat — Stopped at 謝村 *Hsieh-ts'un*.
- (fol. 3 r°) 27 February — by boat — Stopped at 唐西寺 *T'ang-hsi ssü*.
- 28 February — by boat — Stopped at 人場國濟橋 *Jên-ch'ang kuo-chi ch'iao*.
- 29 February — by boat — Stopped at 上墩 *Shang-tun*. "The country was full of corpses left in confusion after battle and fire".
- 1 March — by boat — Passed 平江府 *P'ing-chiang fu* [蘇州 *Su-chou*], stopping for some time at the 閘 *Ch'ang* Gate [west Gate still so named].
- 2 March — by boat — Passed 無錫 *Wu-hsi*: stopped at 常州十里鎮 *Ch'ang-chou shih li chên* [Post ten li from *Ch'ang-chou*].

- 3 March — by boat — Passed 常州 Ch'ang-chou early; passed (fol. 3 v^o)
 奔牛鎮 Pên-niu chên: stopped at 呂城 Lǔ-ch'êng.
 "White bones collected in heaps like mountains".
- 4 March — by boat — Passed 呂城堰 Lǔ-ch'êng yen (weir)
 early, changing boats: stopped at 七里廟 Ch'i-li miao in
 丹陽縣 Tan-yang hsien.
- 5 March — by boat — Passed the 新豐寺 Hsin-fêng ssû: reached
 鎮江府 Chên-chiang fu, and put up in the back hall of
 the Governor's residence (留客于府治後堂) while
 the boats were moored behind the 丹陽館 Tan-yang kuan
 [a large official post-house on the south bank of the canal
 inside the city].
- 6 March — by boat — Crossed the 揚子江 Yang-tzu chiang
 and entered 瓜洲 Kua chou.
- 7 March — ? by boat — Sent with large escort towards 揚州 (fol. 4 r^o)
 Yang-chou, but turned back after passing 揚子橋 Yang-
 tzu ch'iao owing to the bombardment of Yang-chou which
 was then proceeding, and entered 瓜洲 Kua chou. The
 firing of the cannon caused a heavy shower of cold rain
 (再一砲響陰雲四合冷雨大作).
- 8 March — Heavy rain and snow and high wind: stopped again
 at 瓜洲 Kua chou.
- 9 March — by boat — Returned to 鎮江府 Chên-chiang fu.
- 10 March — Spent the night in the boats. (fol. 4 v^o)
- 11 March — Feast at the Governor's residence: spent the night in
 the boats.
- 12, 13, 14 March — Spent the nights in the boats.
- 15 March — Spent the night in the residence of the sub-prefect
 of Chên-chiang ¹⁾).

1) 鎮江州治. 州 may possibly be a misprint for 府, as Chên-chiang was not, I think, at that time connected with any 州 chou or sub-prefecture.

16 March — by boat — Crossed the River and spent the night in the boats. "At nightfall the Ch'êng-hsiang 文 Wên made his escape" ¹).

(fol. 5 r^o) 17 March — Wên's flight was discovered in the morning. The city gates were shut and he was searched for three days in vain. Spent the night in the boats.

18 March — on horse-back — Spent the night in the 揚子橋 關 Yang-tzu ch'iao p'u (post-house). [This day] we rode on post-horses.

19 March — on horse-back — Spent the night at 灣頭 Wan-t'ou.

20 March — on horse-back — Passed 邵伯鎮 Shao-po chên, doing one stage of sixty li (徑行一堡子潤六十里), while we were being entertained by Mr Po-lo and the Ya-ch'êng A-li (波羅相公阿里右丞) news suddenly came of a sortie from the north gate of Yang-chou. We spent the night in a deserted house. "Corpses and bones on the road like mountains".

21 March — on horse-back — Passed 天長縣 T'ien-ch'ang hsien: spent the night in the open. "Sat up waiting for the dawn: the ground was covered with corpses".

22 March — on horse-back — Crossed the 天長河 T'ien-ch'ang ho (river): spent the night in the fields. "There were no boats, and the river was full of decaying corpses".

23 March — on horse-back — Passed 寶應軍 Pao-ying chün.

24 March — on horse-back — Passed 招信軍 Chao-hsin chün: on reaching the 淮安 Huai-an boundary we were suddenly attacked by 呂文德 Lü Wên-tê who was only repulsed at nightfall: spent the night in the fields.

25 March — ? by boat — Passed 江羅城 Chiang-lo ch'êng:

¹) Cf. *Yüan Shih*, c. 12, fol. 3 v^o: 三月...甲戌 (25 March) ...文天祥自鎮江遁去追之弗獲.

Crossed at 清河口 Ch'ing-ho k'ou. "All the officials in charge of the crossing received us in the city offices (軍治) and gave us a banquet". Spent the night in boats outside the walls.

26 March — by boat — Left 清河口 Ch'ing-ho k'ou in boats: passed 七里莊 Ch'i-li chuang at 小清河口 Hsiao ch'ing-ho k'ou, and round a bend of the River to 桃源 Tao-yüan: spent the night in the boats.

27 March — by boat — Spent the night in the boats.

28 March — by boat — Reached 宿遷縣 Su-ch'ien hsien.

"There were barely twenty or thirty houses; and the boats were moored to the bank in the open (舟泊野岸)", i. e. not to a wharf or jetty.

29 March — by boat — Stopped for the night outside the walls of 邳州 P'i chon. "From this point the clothes and hats (衣冠) of the people were different".

30 March — by boat — Changed boats. "All the officials went into the city of P'i to see the sights. The city wall and the walls of the houses were broken down, and the people were living in the ruins. From this point all the towns we passed were in this condition". We spent the night on the open bank.

31 March — by boat — Spent the night in the boats. "This day was 清明 Ch'ing-ming and the envoys for the most part felt sad".

1 April — by boat — Reached 徐州 Hsü-chou, and changed boats: spent the night [moored to] the open bank.

2 April — by boat — At noon we passed 留城 Liu-ch'êng and stopped for a short time. "Tradition says that this is the place from which Kao Tsu of the Han dynasty gave 子房 Tzu Fang the title of 留侯 Liu hou. There is an inscription about it on a tablet in a temple". In the evening we went nine li further.

3 April — by boat — Reached 沛縣 P'ei hsien in the territory of 魯 Lu. "Kao Tsu was a native of 豐 Fēng. P'ei is twenty *li* from Fēng. When the people of P'ei heard that Ministers of State and other officers of the Sung dynasty had arrived, they burnt incense at the door of every house to greet us". About 5 p.m. (申牌後) we passed 雞鳴臺 Chi-ung t'ai; in the evening we reached 魚棠縣 Yü-t'ang hsien [now 魚臺縣 Yü-t'ai hsien] at 舟河口 Chou-ho k'ou. "This is the place of 'seeing the fisherman at Tang' in the old *Ch'un-ch'iu* days, the fifth year of Yin Kung" ¹).

4 April — by boat — Reached 谷亭馬頭 Ku-t'ing-ma-t'ou at noon: passed 魯橋 Lu-ch'iao about 4 o'clock (申時): spent the night at Lu-ch'iao. "The bridge has four arches through which the water races violently".

5 April — by carriage — Transferred the baggage and got into carriages, the subordinate officers all riding on post-horses. Towards evening (酉牌) we reached 新州 Hsin chou and spent the night in the district magistrate's residence (縣治). Hsin chou is 濟州 Chi chou ²).

1) Cf. 春秋 *Ch'un-ch'iu*: 隱公五年 (B.C. 718) 公觀魚于棠.

2) Cf. 'Marco Polo's *Sinjamata*' in *T'oung-pao*, vol. XIII, 1912, pp. 431—433; *Filozof*, *Sin*, c. 1111, fol. 11 r^o: 濟州...唐初爲濟州...宋因之金遷州治任城以河水湮沒故也元至元二年 (1265) 以戶不及千數併隸任城六年 (1269) 遷州於鉅野而任城爲屬邑八年 (1271) 升州爲濟寧府治任城復還府治鉅野十二年 (1275) 以任城當江淮水陸衝要復立濟州屬濟寧路而任城廢十五年 (1278) 遷府於濟州以鉅野行濟州事其年 (1278) 復於鉅野立府仍於此爲州二十三年 (1280) 復置任城隸州; and *Ming Shih*, c. xi, fol. 2 v^o: 濟寧州 (元

- 6 April — by carriage — In the evening (酉) we passed 汾陽 Fên-yang: spent the night in the district magistrate's residence. "This is the place from which 郭令公 Kuo Ling-kung derived his title" ¹⁾).
- 7 April — by carriage — At noon (午) we reached 東平府 Tung-p'ing fu and spent the night in the house of Mr. 嚴 Yen.
- 8 April — "We are two hundred *li* distant from the grave of the (fol. 7 v^o) 宣聖 Hsüan-shêng (Confucius). One man said that at the grave were great trees each thirty feet in circumference. We spent the night in the palace of Mr. Yen. This is a

任城縣爲濟州治至正八年 (1348) 罷濟州徙濟寧路治此) 太祖吳元年 (1368) 爲濟寧府十八年 (1385) 降爲州以州治任城縣省入 (南臨會通河西有馬腸湖又東南有魯橋鎮巡檢司) 東距 [兗州] 府六十里. From these passages it seems to be clear that the Hsin chou or Chi chou of 1276 was identical with Jên-ch'êng hsien, that is to say with Ch'ing chou of the Ming and Manchu dynasties. For the 會通河 Hui-t'ung he see *Yüan Shih*, c. lxxv, fol. 10 v^o—12 v^o. Strictly speaking it appears to have been the canal opened in 1289 between 臨清 Lin-ch'ing and a point near 安山 An-shan; but not long afterwards it was carried farther towards the south-east past Chi-chou, Hsü-chou, etc.

The district magistrate's residence where the travellers lodged must have been that of Jên-ch'êng, although that district was technically in abeyance between 1276 and 1286. Cf. also p. 417 below.

1) 汾陽 Fên-yang is a mistake for 汶陽 Wên-yang, that is to say the modern 汶上 Wen-shang. The place is called 中都 Chang-tu in the *Chia T'ang shu*, c. xxxviii, fol. 23 v^o, and *Sung Shih*, c. lxxv, fol. 9 v^o, and 汶上 Wên-shang in the *Yüan Shih*, c. lviii, fol. 10 v^o, and *Ming Shih*, c. xli, fol. 2 v^o. From the *Chia Shih*, c. xrv, fol. 7 v^o we find that the name was changed from Chang-tu to Wên-yang in 1143, and again to Wên-shang in 1203. Wên-yang evidently survived in popular usage until 1276, unless indeed the author simply misheard the unfamiliar name Wên-shang and carelessly assumed that it was the well known Fên-yang. Kuo Ling-kung or 郭子儀 Kuo Tzu-i derived his title of 汾陽郡王 Fên-yang-chün Wang from Fên-yang in Shanai. The various mistake may perhaps be due to the likeness of the sound of the two words 汾 Fên and 汶 Wên, both, according to Giles' Dictionary, being pronounced *shang* in the Ning-po dialect which is akin to the author's native dialect of Shao-hsing.

most agreeable place. The merchants are prosperous; and silks are extremely cheap. Of all the places we have passed this is the best".

9 April — by carriage — About 4 p.m. (申) we reached 荏平縣 Shih-p'ing hsien and spent the night in the magistrate's residence¹⁾.

11 April — by carriage — Passed 合城鎮 Ho-ch'êng chên: at noon (午) passed 臨城鎮 Lin-ch'êng chên. "Since we left Tung-p'ing fu the villages have been crowded together in immense numbers, with wheat fields and mulberry orchards stretching unbroken as far as the eye can reach". In the evening we reached 平原縣 P'ing-yüan hsien in 高唐 Kao-t'ang, and spent the night in the magistrate's residence. "This is in the Chao territory and is the place from which the Prince of P'ing-yüan in the Warring States derived his title (係趙地戰國封平原君處)"²⁾.

13 April — by carriage — Reached 陵州 Ling chou [the modern 陵縣 Ling hsien]: spent the night in the sub-prefect's residence.

(fol. 8 r°) 14 April — by boat — We left our carriages and went to the 渭河 Wei ho in the west suburb of [Ling] chou, where we embarked on boats. In the afternoon (午後) we passed

1) The distance from Tung-p'ing to Shih-p'ing is too great to have been covered in less than one day; so that perhaps we should correct the date to 4 p.m. on the 10 April, though it is true that more than one day would be needed almost equally for the next stage from Shih-p'ing to P'ing-yüan. The 10 April — 25th day of the 2nd month — is omitted.

2) If this date also were put forward one day — to the 12th — the stages would be better divided, but it is strange that this official diarist, the "eye-witness" of his day, who often found nothing to record in the twenty-four hours but "spent the night in the boats (夜宿舟中)", should have omitted on two days out of three to say where the party spent the night.

林鎮 Lin chên which is subject to 河開府 Ho-chien fu¹⁾. Spent the night on the bank.

15 April — by boat — About 10 a.m. (巳) we reached 東光縣 Tung-kuang hsien on the 灌縣 Kuan hsien boundary: at night moored to the open bank.

16 April — by boat — We reached 長蘆鎮 Ch'ang-lu chên. The natives call it the Little Yen-ching (小燕京), for it is a very prosperous place, producing salt, and the seat of a Salt Commissioner. South of the town is a bridge of boats. About 2 p.m. (未牌) we reached 興濟縣 Hsing-chi hsien, and at 6 o'clock (酉) we reached 青州 Ch'ing chou, and spent the night on the boats²⁾.

17 April — by boat — Passed 清河鎮 Ch'ing-ho chên: at night we moored in the town. "Not far from the sea".

18 April — by boat — Passed the 永濟河 Yung-chi ho at 清河鎮 Ch'ing-ho chên. "There was a great gale from the sea at the time, blowing about the sand and pebbles. We spent this night on the boats".

(fol. 8 v^o)

1) The author calls both Ho-chien and Tung-p'ing prefectures or 府 fu as they had been in the Sung and Chia dynasties, though in 1276 they were both circuits or 路 lu. I find none of the three last mentioned 鎮 chên in c. xiv of the *Chia Shih*, unless 靈城鎮 Ling-ch'eng chên under 高唐 Kao-t'ang on fol. 8 r^o is the same as 臨城 Lin-ch'eng, and 北林 Pei-lin under Ho-chien on fol. 4 r^o the same as 林 Lin.

2) Ch'ang-lu chên is given under 清池縣 Ch'ing-ch'ih hsien in 滄州 Ts'ang chou (*Chia Shih*, c. xiv, fol. 4 v^o), and Hang-chi hsien under 青州 Ch'ing chou (*Chia Shih*, Ibid. and *T'ang Shih*, c. xlii, fol. 10 v^o). 青州 Ch'ing chou in the text is I suppose a slip for 清州 Ch'ing chou, which was identical with the modern 青縣 Ch'ing hsien on the Grand Canal. Hsing-chi, which must have been a few miles south of Ch'ing chou, appears in the *Kuang yü t'zu*, fol. 3 v^o, and in the *Kuang yü hsiang shêng*, vol. I, but not in Richard's *Comprehensive Geography*. Cf. *Ming Shih*, c. xi, fol. 4 v^o. The only 灌縣 Kuan hsien which I have noticed is in the province of Sui-ch'uan. Tung-kuang itself had been called 觀州 Kuan chou in the Sui dynasty.

19 April — by boat — We reached 楊村 Yang-ts'un early, and stopped at the post-house. The local officials searched Yang-ts'un and the surrounding country and collected thirty carriages. We spent the night in the post-house.

21 April — by carriage — At noon (午) we passed 武清縣 Wu-ch'ing hsien: spent the night at the Sub-prefect's residence ¹⁾).

22 April — by carriage — Passed 王臺鎮 Wang-t'ai chên: "The country on all sides was green with mulberries and wheat". At noon we passed 分頭 Fên-t'ou. "The natives said it was very cold here. Silkworms could not be reared before the fifth month. The wheat was now barely three inches high, and could not be eaten before the sixth month". We next reached 德仁府 Tê-jên fu. This region is under the jurisdiction of 灤陰縣 K'uo-yin hsien ²⁾).

(fol. 10 r^o) 24 April — by carriage — Passed 大興縣 Ta-hsing hsien, and reaching 滂村 P'ang ts'un spent the night there. "賈相 Chia Hsiang was taken ill on this day" ³⁾).

25 April — "We entered 燕京 Yeu-ching on horseback by the

1) Perhaps the Sub-prefect of 灤州 K'uo chou to which Wu-ch'ing was made subordinate in that very year. The author mentions 郭陰縣 K'uo-yin hsien, the former name of K'uo chou, just below. The Yang-chi hó (see above) is mentioned under 南皮縣 Nan-p'i hsien in the *Chin Shih*, c. xxv, fol. 4 v^o.

2) In the *Chin Shih*, c. xxiv, fol. 9 v^o, K'uo-yin and Wu-ch'ing are given as *hsien* subordinate to 大興府 Ta-hsing fu (Peking); in the *Yuen Shih*, c. lviii, fol. 2 v^o, Wu-ch'ing is subordinate to K'uo chou in the jurisdiction of 大都路 Ta-tu lu (Peking).

In neither book do I find 王臺鎮 Wang-t'ai chên or 德仁府 Tê-jên fu; nor is it clear what the author means by saying that a *fu* (unless Tê-jên fu was the name of a *koue*) was subordinate to a *hsien* 次抵德仁府此地屬灤陰縣. K'uo chou reverted to K'uo-yin hsien in the Ming dynasty, and has since lost even that dignity.

3) The date is given in this case in the form 初九日甲辰 "The ninth day, chieh-ch'ên".

陽春門 Yang-ch'un Gate, and were received ... in the
會同館 Hui-t'ung kuan" ¹⁾).

29 April — 賈相 Chia Hsiang died, to the great grief of all the (fol. 11 r^o)
officers.

30 April — Chia Hsiang was carried out by the back door of the
Hui-t'ung kuan and buried near the 洞神觀 Tang-shên
kuan, the procession leaving the city by the 麗正 Li-chêng
Gate ²⁾).

6 May — 巴延丞相 The Ch'êng-hsiang Pa-yen (Bayan) returned. (fol. 11 v^o)

1) It was perhaps the old city which the envoys entered by one of the east gates. Anciently in the 晉 Chin and T'ang dynasties the place had been called 幽州 Yu chow. The Liao made it their Southern Capital (南京 Nan-ching) in the first year of 會同 Hui-t'ung (938), and in the first year of 開泰 K'ai-t'ai (1012) named it 燕京 Yen-ching. When 海陵 Hai-ling (of the 金 Chin) made it his capital in the first year of 貞元 Ching-yüan (1123) he considered it improper to use the name of one of the ancient states (燕 Yen) for his capital and so changed it to 中都 Chung-to. When Chinghis captured the place in 1215 he called it 燕京路 Yen-ching lu, retaining the subordinate jurisdiction of 大興府 Ta-hsing fu. In 1264 Khubilai named it 中都 Chung-to, still retaining Ta-hsing fu. In 1267 he began to build his new city (the present "Tartar City") to the north-east of the old site, and transferred his capital thither. In 1271 the new city was named 大都 Ta-tu (or Tai-tu).

The gates of the old city (evidently still known as Yen-ching in 1276) were: on the east: 施仁 Shih-jên, 宣曜 Hsüan-yao, 陽春 Yang-ch'un; on the south: 景風 Ching-fêng, 豐宜 Fêng-i, 端禮 Tuan-li; on the west: 麗澤 Li-tsê, 顯華 Hsüan-hua, 彰義 Chang-i; on the north: 會城 Hui-ch'êng, 通玄 T'ung-hsüan, 崇智 Ch'ung-chih, 光泰 Kuang-t'ai. The gates of Ta-tu, going round from the northern east gate in order, were: — on the east: 光熙 Kuang-hsi, 崇仁 Ch'ung-jên, 齊化 Ch'i-hua; on the south: 文明 Wên-ming, 麗正 Li-chêng, 順承 Shün-ch'êng; on the west: 平則 P'ing-tsê, 和義 Ho-i, 肅清 Su-ch'ing; on the north: 健德 Chien-tê, 安貞 An-chêng. Cf. *Chin Shih*, c. xxiv, fol. 9 r^o, *Fôu Shih*, c. lviii, fol. 1 v^o, 2 r^o.

2) This looks as if they were after all in Ta-tu or the new city; but the names of gates were often changed and I have no Topography of Peking at hand to consult. Two gates of the old city (Yang-ch'un and T'ung-hsüan) are mentioned again just below.

All the envoys went out to meet him with a great flag on which were written the four words 天下太平 *T'ien hsia Tai p'ing* or *Universal Peace*.

8 May — Bayan went up to 開平府 *K'ai-p'ing fu*.

9 May — The envoys went out of the Yang-ch'un Gate to meet the Empress and the Heir Apparent five *li* outside the city. The procession which consisted of ninety-three carriages of various kinds entered Yen-ching.

(fol. 13 v°) 22 May — The envoys visited the 長壽宮 *Ch'ang-shou Kung* which was presided over by a Saint and inhabited by eight hundred Taoist monks (本觀見有一真人掌觀宮內道眾八百人).

24 May — The Secretary to the Council (中書) called on the envoys to ask on what day they would go to 上都 *Shang-tu*.

26 May — The envoys went out of the 通玄 *T'ung-hsüan* Gate, riding on post-horses. In the evening we reached 昌平站 *Ch'ang-p'ing chan*. "From this point every step of the way was through sandy desert".

(fol. 13 r°) 27 May — by carriage and on horseback — Passed 隘口 *Yai-k'ou*: spent the night at 榆林站 *Yü-lin chan*.

28 May — by carriage — Spent the night at 懷來站 *Huai-lai chan*.

29 May — by carriage — Spent the night at 洪站 *Hung Chan*. This day the Empress, Heir Apparent, and the Princes Fu and I (福王沂王) left Yen-ching and set out for Shang-tu.

30 May — by carriage — We left Hung chan and ten *li* further on reached 雲州 *Yün chou*, "a village street with no wall. Twenty *li* beyond the *chou* is a place called 龜門山 *Kuei-mên shan*". We spent the night at 雕巢站 *Tiao-ch'ao chan*.

31 May — by carriage and on horseback — Spent the night at 獨石站 Tu-shih chan. "From Ch'ang-p'ing chan to Tu-shih chan the post-houses were straw hovels without walls and, being guarded and served by Chinese officials (漢兒官人), are named Chinese posts (漢兒站)".

1 June — by carriage — We spent the night at 牛羣站 Niu-ch'ün chan. "At this point we entered the Grass Lands. This is guarded and served by Tartar officials (韃靼家官人) and so is called a Tartar post (韃靼站); and (fol. 13 r^o) there are no buildings, but only felt tents. The Tartars drink a great deal of mare's milk and cow's milk and eat goat's milk cheese (羊酪), but do not eat much rice. If they are hungry they eat meat. Every ten *li* along the road is an express post stage (急遞鋪); for this is the high road to every part of the empire (九州自此通路去)".

2 June — by carriage — We spent the night at 明安站 Ming-an chan. "There were beds and tents but no people".

3 June — by carriage — We spent the night at 京亭站 Ching-t'ing chan. "Again no people; and no water to drink. We had to go a distance of ten *li* to draw water. There was nothing but horse-dung for fuel".

4 June — by carriage — We spent the night at 李三站 Li-san chan. "No people".

5 June — by carriage — After travelling forty *li* we entered 上都 Shang-tu or 開平府 K'ai-p'ing fu by the 昭德門 Chao-tê Gate, and spent the night inside the city. "From Yen-ching to Shang-tu is eight hundred *li*, up hill every step of the way. The wells are several hundreds of feet deep, and the water is extremely cold. Ice forms in the sixth month, and it is drawn up from the wells in the fifth and sixth months (五月六月汲起冰). In the sixth month (fol. 14 r^o)

there are hailstones as big as bullets (彈丸). All the year round it constantly rains and snows so that people dare not open their doors. Cows and sheep are frozen to death, and men have their ears and noses frost-bitten. In the autumn and winter the snow collects so that it does not melt until the fourth month of the next year. The houses are low and small. Pits in the ground are much used as houses. The earth is dug out to the depth of ten feet or more and a platform is made above of poles, and this in turn is covered with thatch, and they grow wheat and vegetables, a hole being left for the smoke. There are houses in the ground where the earth is dug out for only three or four feet and the pit is surrounded with an earth wall.

"It is extremely cold here, and every year in the sixth month the Emperor comes here to escape the heat. The thicker pieces of ice are several feet thick. At night if one looks up at the stars they are extraordinarily large, owing to the height of the land".

11 June — The Empress and her party arrived by the Chao-tê Gate ¹).

(fol. 14 v^o) 13 June — The Empress and her retinue were conducted to the fields outside the west gate and did obeisance towards the north to the Imperial Temple (太廟).

14 June — They did the same five *li* outside the west gate, to the Family Temple (家廟). "The Empress and her suite all bent the knee in the Mongol manner (各胡跪), but Prince Fu and the Ministers observed the southern ceremonial (如南禮)".

15 June — The Empress, Heir Apparent, Prince Fu, etc., and all the

¹) Cf. *Yüan Shih*, v. cxvii, fol. 6 v^o: 五月乙未伯顏以宋主至上都 "On 4th day of the 5th month (14 June) Bayan reached Shang-tu with the Sung Emperor".

envoys went to the Imperial Tent (行宮), which was on the (vol. 15 r^o) open grass land ten *li* or more outside the south gate, taking with them more than a hundred loads of presents, for their first audience with the Emperor and to present their gifts.

The Emperor and Empress were sitting together in the middle of the Tent with the princes ranged in order down the two sides.

ITINERARIES COMPARED

YEN KUANG-TA	MARCO POLO	ODORIC
	MS 1110	Yule
1. 臨安 LIN-AN (i.e. 杭州 HANG-CHOU)	QUINSAY 京師	KINSAY CANSAY
謝村 Hsieh-ts'un	Ciangan 長安	Changan
唐西寺 T'ang-hsi ssü	Vughin ? 吳江	Vughin
人場國濟橋 Jên-ch'ang		
Kuo-chi ch'iao	Vugiu ? 湖州	Vuju
上墩 Shang-tun		
2. 平江 P'ING-CHIANG (i.e. 蘇州 SU-CHOU)	SUGIU 蘇州	SUJU
無錫 Wu-hsi		
十里鎮 Shih-li chên		
3. 常州 CH'ANG-CHOU	TINGHINGIU ?	CHINGHINJU
奔牛鎮 Pên-niu chên		
呂城 Lû-ch'êng		
七里廟 Ch'i-lî miao		
新豐寺 Hsin-fêng ssü		
4. 鎮江府 CH'EN-CHIANG FU	CHINGHIANFU 鎮江府	CHINGHIANFU MENZU?
5. 揚子江 YANG-YÜ CHIANG (or 江 CHIANG)	QUIAN 江	KIAN TALAI
6. 瓜洲 KUACHOU	CAIGIU 瓜洲	CAIU

YEN KUANG-TA

MARCO POLO

ODORIC

MS 1116

Yule

揚子橋 Yang-tzu ch'iao

Singiu

眞州

Sinju

灣頭 Wan-t'ou

邵伯鎮 Shao-po chên

7. [揚州 YANG-CHU]

YANGIU

揚州

YANJU

IAMZAI

天長縣 T'ien-ch'ang hsien

Cingiu

?

Tiuju

天長河 T'ien-ch'ang ho

Tigiu

泰州

Tiju

Caiu

高郵

Cayu

8. 寶應軍 PAO-YING CHÜN

PAUCHIN

寶應

PAUKIN

招信軍 Chao-hsin chün

9. [淮安界 HUAI-AN CHIEH]

COIGANGIU

淮安州

COIGANJU

江羅城 Chiang-lo ch'êng

10. 清河口 Ch'ing-ho k'ou

CARAMORAN

CARAMORAN

(Here the Yellow River seems
to have been crossed)小清河口 Hsiao Ch'ing-
ho k'ou

Caigiu

海州

Caïu

七里莊 Ch'i-li chuang

桃源 T'ao-yüan

CINGIU

?

SIJU

11. 宿遷縣 SU-CH'IEH HSIEH

CIUGIU

12. 邳州 P'i chou

PINGIU

邳州

PIJU

徐州 Hsü chou

Ligiu

?

Linju

Lenzin

留城 Liu-ch'êng

Lingiu

Lencui

沛縣 P'ai hsien

鷄鳴臺 Chi-ming tai

舟河口 Chou-ho k'ou

魚棠縣 Yü-t'ang hsien

谷亭馬頭 Ku-t'ing-mu-t'ou

魯橋 Lu-ch'iao

YEN KUANG-TA

MARCO POLO

ODORIC

MS 1116

Yule

13. 新州 Hsin chow (i. e.
濟寧州 *Chi-ning chow*)
汶陽 Wên-yaug

SINGIU 新州馬頭 SINJUMATU SUNJUMATU

東平府 Tung-p'ing fu

Condinfu

Candinfu

Cundinfu

泰定(府) Tadinfu

茌平縣 Shih-p'ing hsien

合城鎮 Ho-ch'êng chên

臨城鎮 Lin-ch'êng chên

平原縣 Ping-yüan hsien

陵州 Ling chow

Ciangli 濟南路 Chinangli

渭河 Wei ho

林鎮 Lin chên

東光縣 Tung-kuang hsien

14. 長蘆鎮 Ch'ang-lu chên

CIANGLU 長蘆 CHANGLU

興濟縣 Hsing-chi hsien

Cacianfu 河間府 Cacanfu

清州 Ch'ing chow

清河鎮 Ch'ing-ho chên

永濟河 Yung-chi ho

楊村 Yang-ts'un

武清縣 Wu-ch'ing hsien

王臺鎮 Wang-t'ai chên

分頭 Fên-t'ou

德仁府 Tê-jên fu

Giogiu 趙州 Juju

[潮陰縣 K'uo-yin hsien]

大興縣 Ta-hsiog hsien

滂村 P'ang ts'un

Polisanghin 渾河 Polisanghin

15. 燕京 Yen-ching (i. e.

CANBALU 罕巴里 CANBALUC CAMBALECH

北京 PEKING)

YEN KUANG-TA

MARCO POLO

ODORIC

MS 1116

Yule

昌平站 Ch'ang-p'ing chan

隘口 Ch'i-k'ou

榆林站 Yü-lin chan

懷來站 Huai-lai chan

洪站 Hung chan

雲州 Yün chow

龜門山 Kuei-mén shan

雕巢站 Tiao-ch'ao chan

獨石站 Tu-shih chan

牛羣站 Nin-ch'ün chan

明安站 Ming-an chan

京亭站 Ching-t'ing chan

李三站 Li-san chan

16. 上都 SHANG-TU (OF CIANDU 上都 CHANDU SANDU
開平府 K'AI-P'ING FU) CLEMEINFU 開平府 KEMENFU

NOTES

The itineraries compared are those of (1) Yen Kuang-ta; (2) Marco Polo (a) according to the French MS. 1116 in the Bibliothèque Nationale and (b) according to Colonel Yule's English text; and (3) Odoric according to Colonel Yule's English text in *Cathay and the way thither*. The places which are identical in two or in all three of these lists are printed in capitals and are numbered. Places printed in small letters do not correspond with those which happen to stand opposite to them in the other lists. Names printed in italics are those which are found in the itineraries in D. Gaudar's *Le Canal Impérial (Variétés Sinologiques No. 4)*, pp. 66-75. The itinerary of Sir John Davis has not been available, that of Lord Macartney is of little or no assistance.

One thing at least results from the comparison of the old itineraries with those of P. Gandar or with a modern map, and that is that the course of the canal has been considerably altered in six hundred years. To restore with any degree of accuracy the state in which Marco Polo found it would need nothing less than a survey of the whole strip of country involved, together with the study of the complicated records of the repairs and alterations carried out from time to time which are to be found in the Chinese Histories and Topographies. The following notes are given for what they may be worth. It is to be feared that very little is added to what may be found in Colonel Yule and other editors.

1. CIANGAN. The identification of this and of VUGHIN and VUGIU appears to be still very uncertain. Yule suggests 嘉興 Chia-hsing, 吳江 Wu-chiang, and 湖州 Hu-chou for the three respectively, admitting that Hu-chou must be a digression from the journey between Su-chou and Hang-chou, though it is a quite possible digression, and that Chia-hsing has never had a name at all like Ciangan. The connexion between Hu-chou and Hang-chou is very intimate and the north suburb of the latter, the 湖墅 Hu-shu, was known in Marco Polo's day as the 湖州市 Hu-chou shih. The identification of Vughiu with Wu-chiang is fairly satisfactory, but it is perhaps worth while to point out that there is a place called 吳鎮 Wu chên about fifty *li* north of 石門 Shih-mên; and for Ciangan there is a tempting place called 長安鎮 Ch'ang-an chên just south of Shih-mên on a canal which was often preferred to the 塘棲 Tang-hsi route until the introduction of steam boats. Of the four places in the corresponding section of Yen Kuang-ta's journey I have discovered only one in the maps or books at my disposal, though Tang-hsi ssü very likely represents 塘

棲鎮 Tang-hsi chên, and Shang-tan may perhaps be 勝墩 Shêng-tan (cf. *Le Canal Impérial*, p. 66). The modern 唐棲志略 T'ang-hsi chih lüeh, c. i, fol. 13, says 唐棲寺今無考 "The T'ang-hsi ssü cannot now be traced". — but the mere mention of it seems to show that it was in T'ang-hsi.

2. TINGHINGUI. No explanation seems yet to have been published of this name, though the place was evidently Ch'ang-chou. If the form Cingingiu is right it does not seem impossible that it should be a corruption of Cianggio. The ancient names of the place are given as 延陵 Yen-ling, 毗陵軍 Pi-ling chün, and 晉陵 Chin-ling; but it is beyond doubt that it was commonly called 常州 Ch'ang-chou at the end of the thirteenth century. The reading of the MS. 1116 is Tinghingui and not, as it is printed, Cingingui. I have put *giu* throughout for *gui*, thinking it very probable that *giu* was intended by Marco Polo if not by the writer of the manuscript who often fails to dot the letter i.

3. MENZU. The identity of this place with Chên-chiang seems to be very questionable. Ferdinand Mendez Pinto (not a reliable authority) says: "Being departed from these two Towns Pacão and Nacau, we continued our course up the River, and arrived at another town called Mindoo....., where about half a mile off was a great Lake of Salt-water, and a number of Salt-houses round about it... Now we had not passed above five or six leagues from this place but we came to a great Town, about a league in circuit, quite destroyed and ruined;... the Town was anciently called Cohilouzaa, that is, *The flower of the field* (frol do campo)." Near the town and at a bend in the river was a village named Xifangau. Cf. *Perigrinaçam de Fernam Mendez Pinto*, 1614, fol. 108, 109. I do not know that anything can be made of the likeness of Menzu and Mindoo.

4. SIXOU. Chên-chou is now 儀徵 I-chêng, or 儀真 I-chên, hsien. As Yule points out it is not on the direct route from Yang-chou to Kua chou. From Kua chou to the Yellow River Yen Kuang-ta's route was disturbed by the siege of Yang-chou and still more, apparently, by some difficulty which made the party avoid Kao-yu and go far to the west to Tien-chang.
5. CINGIU. This remains, as far as I know, provokingly elusive, although 鹽城縣 Yen-ch'êng hsien does not seem to be improbable, as it possessed nine salt factories out of the twenty-nine which were included in the double circuit of 兩淮 Liang-Huai (cf. *Sung Shih*, c. lxxxviii, fol. 3v^o; *Fān Shih*, c. xci, fol. 4v^o, 5r^o). The list of the salt factories throws no light on Marco Polo's name, and his positions for both Cingiu and Tigiū seem to be at fault. In these, as in most, cases a detailed knowledge of the locality would probably remove the difficulty and prove Marco Polo to be more accurate than we suspect. The commercial importance of a place and its convenience as a stopping-place for travellers depend in no way upon its official rank, and yet the majority of maps at our disposal mark no place that has not the rank at least of *hsien* or district. There are however some maps that do better than this, and I have been much helped by the maps in 浙江全省輿圖並水陸道里記 *Chê-chiang sh'ün shêng yü tsu* etc., the Jesuit *Carte de Kiang-nan*, and the War Office *Province of Shan-tung*.
6. PAUCHIN is not much like Pao-ying, but the situation agrees well enough with that of Pao-ying which is now a *hsien* city on the east side of the canal. The next place in Yen's list is difficult to locate exactly. The *Sung Shih*, c. lxxxviii, fol. 4v^o, says that 招信軍 Chao-hsîn chün was the same as 盱眙縣 Hsü-i hsien in 泗州 Ssu chou (招信軍本泗州盱

貽縣), and the *Fān Shih*, c. lix, fol. 10^v°, says that Hsü-i, in Ssu chou, is Chao-hsin chün of the Sung dynasty (肝貽上朱招信軍). There is a Hsü-i subordinate to Ssu chou to this day, but its position on the south-west shore of the Hung-tsê lake makes it difficult to believe that it is the spot in question. Even if Pao-ying (a *heien* in both *Sung Shih* and *Fān Shih*, though the former in c. lxxxviii, fol. fol. 3^v° says it was raised to be 寶應州 Pao-ying chou in 1227 and the latter (l. c.) that it was formerly 寶應軍 Pao-ying chün) were then much further to the west than it is now, the distance from the present Hsü-i to Ch'ing-ho k'ou — nearly fifty miles as the crow flies and with the great lake intervening — could not have been covered in a single day. It would suit the circumstances better if Chao-hsin and Chiang-to ch'eng could be placed in the immediate vicinity of the modern 淮安 Huai-an or 清江浦 Ch'ing-chiang p'u. Notice that Marco Polo like Yen Kuang-ta did this part of the journey on horseback.

7. CORMACIUS. Under the heading 楚州 Ch'u chou in the *Sung Shih*, c. lxxxviii, fol. 3^v°, it is noted that the place was made into 淮安州 Huai-an chou in 1234.

It is most unfortunate that the geographical sections of the Chinese Histories, so full of detail as they are about the changes in the status and administration of each place, should rarely if ever condescend to give any clue as to its locality. The actual sites of a great many cities have changed in the course of ages, and the incessant changes of the headquarters of the higher administrations from one to another of their subordinate cities make the task of identifying a given city in many cases almost hopeless.

8. CARAMORAN: It is not a little curious that Yen passes the Yellow River without comment, leaving us almost in doubt as to what

river it was that they crossed at Ch'ing-ho k'ou (then officially known as 清河軍 Ch'ing-ho chūn and now as 清河縣 Ch'ing-ho hsien), and whether or not they travelled up the Yellow River itself to 桃源 Tao-yüan which seems to have been on the right or south bank.

9. CAIGIU. 海州 Hai chou is the obvious though by no means perfectly satisfactory equivalent of Caigia. For it stands not on, but thirty or forty miles from, the old bed of the river. A place which answers better as regards position is 安東 An-tung, which was a *chou(giu)* in the Sung and Yüan dynasties. The *Kuang-yü-hsing-shing*, vol. II, gives 海安 Hai-an as the old name of An-tung in the Eastern Wei dynasty.
10. CUGIU. I have kept this as equivalent to Su-ch'ien, though it must be obvious that if Yule's SIZU is right; and nothing like it appears among the variants given by the Société de Géographie (*Recueil* etc., Tom. I); it is an almost exact transliteration of 徐州 Hsü-chou. From the place in which it comes it can hardly be the modern Hsü-chou which Yen reached after P'i chou, nor on the other hand do I find Hsü-chou as an old name for Su-ch'ien in the *Sung Shih*, *Chin Shih*, *Yüan Shih*, or *Kuang-yü-t'u*. We do not know exactly when it was that Marco Polo found Siju a "great, rich, and noble city, flourishing with trade and manufactures", but it cannot have been more than fifteen or sixteen years after Yen had found "barely twenty or thirty houses" at Su-ch'ien. On the whole the identification seems to me to be doubtful, and the readings of MS. 1116 — Cingui or Cuigui — do not help the matter.
11. PINUIV. I have put P'i chou, which I believe to be the local pronunciation of the name, in place of the P'ei chou of the maps for the sake of greater correspondence with Marco Polo. The water-way from P'i chou to Hsü chou, which seems to be on

the old bed of the Yellow River, is not marked on the *Carte du Kiang-nan* or *Province of Shan-tung*.

12. LIQU. The correspondence of Ligia or Lingia with Láu-ch'êng is very tentatively suggested and does not really seem to be probable. On the other hand no place at all like Li-chou or Lin-chou can be found in a possible position on the maps or in P. Gandar's itineraries, nor did I note any such name among the towns and villages on the modern canal when I travelled up it in 1903. Unless we are to suppose that both Marco Polo and Odoric entirely forgot the order in which the places came, 臨清縣 Lin-ch'ing hsien (now a *chou*) is out of the question, and it seems to be unfortunate that this identification, pardonable enough when Yule first made it, should have been allowed to stand in the more recent editions of Marco Polo and Odoric without clear explanation of the case, together with the notes in which "Lin-tsin-chu, a well known city in Shan-tung" and "Lin-ching, which appears in Berghaus [and in the revised map in the new edition of *Cathay*] on the Great Canal very near the 35th degree of latitude" are treated as if they were two separate places. The fact is of course that both are meant to represent 臨清州 Lin-ch'ing-chou on the Canal (lat. 36.50 N.) north-west of Chi-ning chou. Cf. *Marco Polo*, 1903, vol. II, p. 141 and Map facing p. 144, and *Cathay and the Way thither*, vol. II, 1913, pp. 213, 214, and Map. 留城 Liu-ch'êng is marked on the *Province of Shan-tung* 63 miles south-east of Chi-ning chou on the high road from Hsü-chou to Yen-chou, and not on any water-course. The last remark applies equally to 沛縣 P'ei hsien and 魚臺 Yü-t'ai, so that we have three places in addition to P'i chou and Hsü chou above, which were on the main route for boats in 1276 and now have no stream large enough to

mark on the map near them. 魯橋 Lu-ch'iao is still a busy canal-side village.

13. SINGIU. This form, which I did not know when I wrote a note on *Sinjumatu* in 1912, enables us to say that Yen Kuang-ta has preserved exactly one of Marco Polo's names for this place. MS. 1116 uses Singiu and Singiumatu each three times; Yule has only Sinjumatu without noticing the shorter form.
14. CONBINFU. Here again the French forms differ greatly from Yule's Tadinfu, and it is strange that Marco Polo should have caught the name which the place had borne for barely a century instead of its ancient name of 兗州 Yen chou. Even in the *Chin Shih*, c. xxv, fol. 8 r^o, the name Yen chou stands first — 兗州中泰定軍節度使 —; nor was the place ever called Tai-ting fu. At any rate Colonel Yule seems to be right in saying that Marco Polo's story of the rebellion of 李壇 Li T'an in 1262 applies to Ciaugli or 濟南路 Chi-nan lu rather than to Yen chou. Chi-nan was the capital of the ancient state of 齊 Ch'i and had under it, in the thirteenth century, "eleven cities of great importance", whereas Yen chou had only three or four. For Li T'an's rebellion and the siege of Chi-nan see the *Yüan Shih*, c. v, fol. 1, 2; c. ccvi, fol. 2 r^o; and c. exviii, fol. 5 r^o. From the last passage it appears that Aibuga, the father of king George of Tenduc, took some part in the siege. Prince 哈必齊 Ha-pi-ch'i and 史天澤 Shih T'ien-tsé, but not, that I have seen, Agul or Mangutai, are mentioned in the *Yüan Shih*.
15. CIANGLU was not, I think, identical with 滄州 Ts'ang chou. It does not appear on the best modern map at my disposal.
16. PULISANGHIN. The river, known in its lower reaches as the 渾河 Hun ho, is also called 盧溝 Lu kou and the great bridge is called 盧溝橋 Lu-kou ch'iao.

- In Yen K'uang-ta's approach to Yen-ching it is difficult to see how he passed 大興縣 Ta-hsing hsien which then as now formed part of the capital and had no separate city of its own; unless "passed" (過) may mean "crossed the boundary of". If this is so, the translation of several passages in the diary may need modification. Wu-hsi, Ch'ang-chou, Shao-po, T'ien-ch'ang, Pao-ying, Chao-hsin, and two or three lesser places are thus said to have been *passed* (過), without anything (except one's independent knowledge of the position of the first two or three of them) to show whether the actual *city* was reached or not; and the same word (過) is applied to Wên-yang, Ch'ing-ho chên, and Wu-ch'ing, where in each case the travellers slept in the official residence (治) which is almost certain to have been inside the city walls. The difficulty of supposing in the case of Ta-hsing that the word thus practically means "arrived at", is that the author proceeds to say next that the party "arrived at" (至) P'ang-ts'un.
17. For the journey from Ta-tu to Shang-tu I have no other itineraries at hand to compare with Yen's. PALLADIUS writes in his *Elucidations of Marco Polo's travels in North China* (JNCBRAS, 1876), p. 25: "On both these roads 納鉢 *nabo*, on temporary palaces, were built, as resting-places for the khans; eighteen on the eastern road [via 獨石口 Tu-shih k'ou, 750 *li*] and twenty-four on the western [via 野狐嶺 Yeh-hu ling, 1095 *li*]. The Sung envoys accomplished the journey in *seven* stages, Yen remarking on one occasion that they reached the halting place "very late", and the Empress in fourteen days.

ADDITIONAL NOTE.

With regard to the stages of the journey from 鎮江 Chên-chiang to 杭州 Hang-chou we gain a little corroborative information from the 客杭日記 *K'o Hang Jih-chi*, 郭天錫 Kuo T'ien-hsi's diary

of his visit to 杭州 Hang-chou in 1308, fol. 1 and 2. The diary of the actual journey is unfortunately abbreviated in the modern edition (武林掌故叢編 *Wu-lin chang ku ts'ung pien*, Section V, vol. 2), but the mention of the following points is preserved: — 呂城 Lǚ-ch'êng was left on the evening of the 16th of the ninth month (30 September); 呂城霸 Lǚ-ch'êng pa was reached before noon on the 17th (1 October), and 奔牛 Pên-niu and 常州 Ch'ang-chou later the same day. The writer left Ch'ang-chou late on the 18th (2 Oct.), arrived at 平江 P'ing-chiang (Su-chou) after noon on the 19th (3 Oct.) and left again on the 20th (4 Oct.). On the afternoon (哺時 3–5 p. m.) of the 21st (5 Oct.) he landed at 長安 Ch'ang-an to buy food, and reached the north suburb of Hang-chou (杭州城外, called on fol. 3 湖州 市 Hu-chou shih) about 2.0 a. m. (四更) on the 22nd (6 Oct.), entering the city in another boat at dawn.

The chief points of interest here are the mention of 長安 Ch'ang-an as an important stopping place; and the fact that it was possible to travel by night, if that is what is indicated by the words 夜航 *yeh hang*, as, for example, in 晚趁呂城夜航作錢唐之行.

A more modern diary (遊明聖湖日記 *Yu Ming-shêng Hu Jih-chi*, fol. 1, 16 and 17) gives the following points: —

Ninth month, 12th day (5 Oct., 1623), left 胥江 Hsü Chiang at noon; reached 吳江 Wu-chiang in the evening: 13th, blank: 14th, passed 斗門 Tou-mên, spent night at 崇德 Ch'ung-tê: 15th, reached 唐栖 T'ang-hsi in the afternoon: 16th (9 Oct.), arrived at 北新關 Pei-hsin kuan (North suburb of Hang-chou). Tenth month, 18th day (10 November, 1623), left the 北新關 Pei-hsin kuan and passed 謝邨 Hsieh-ts'an: 19th, spent the night at 石門 Shih-mên: 20th, reached 嘉興 Chia-hsing: 21st, at Chia-hsing, spent the night at 橫江涇 Hêng-chiang ching: 22nd, unable to travel, moored at the 三里橋 San-li ch'iao at 吳江 Wu-chiang: 23rd, crossed the 胥江 Hsü Chiang and reached home.

MÉLANGES.

CHINESE TRANSCRIPTIONS OF TIBETAN NAMES.

I have read with keen interest M. Pelliot's study *Quelques transcriptions chinoises de noms tibétains* (this volume, pp. 1—26), which is as instructive and illuminating as his recent, very important contribution *Les noms propres dans les traductions chinoises du Milindapañha* (*J. A.*, 1914, Sept.-Oct., pp. 379—419). M. Pelliot is an excellent phonetician, and commands an admirable knowledge of ancient Chinese phonology, such as is possessed by no other contemporary. It is only to be hoped that he will publish some day, for the benefit of all of us, an *œuvre d'ensemble* on this complex subject, which is still so much obscured. M. Pelliot's criticism is most assuredly welcome, always founded, as it is, on serious and solid information, and inspired by no other motive than the ideal desire to serve the common cause. It is a privilege and a stimulus to co-operate with such a sympathetic and highly intelligent worker, for whom I have an unbounded admiration, and to be guided by his friendly advice and effectual support. Indeed, without committing an indiscretion, I may say that in the present case this criticism was voluntarily solicited on my part, as I have never flattered myself for a moment that all difficulties presented by the Sino-Tibetan transcriptions have been solved by me; on the contrary, I am wide awake to the fact that my feeble attempt in this direction was merely a tentative beginning, which should be continued and improved by an abler hand. I am very happy that M. Pelliot has taken up this problem with such minute care and unquestionable success, and I need hardly assure him of my keen sense of obligation for his untiring efforts and the inspiring instruction which I have derived from his comments.

What M. Pelliot observes under 1—5 on the transcription of the Tibetan prefixes visible in the Chinese final consonants meets with my heartiest approval; indeed, this is the logical amplification of what I myself had noted on the transcription of *Sam-puá* (p. 86, *Young Pao*, 1914).

Pelliot No. 5: The Tibetan reading *k'ed-ne brtan* is correct. No. 6: The Tibetan reading *goñ* is justified, and plainly appears as such in Bushell's plate.

In my first draught of the monument, made in Tibetan letters, it is indeed written *goh*; I do not know now how it happened that it was printed *kūh*. No. 7: The last Tibetan word is so indistinct in Bushell's plate that the matter can hardly be decided merely on this basis; but I admit that *ḡab* or even *tsab* could be read into it, and accordingly that M. Pelliot's conjecture is justifiable. No. 8: I gladly adopt the Tibetan reading *bla qbal blon-kru-bran myes-rma*. No. 10: The last Tibetan word may well be *ken*, not *yen*. I am unable to recognize *k* after *ha* in Bushell's plate, but it may be traceable in the original stone or in a rubbing. No. 14: The stone is here in such a hopeless condition that certainty of reading is out of the question; what appears quite certain to me is the letter-combination *ryy*. I regret having had the misfortune of overlooking Col. Waddell's study utilized by M. Pelliot: at the time when I wrote, the volume of the *J. R. A. S.*, in which it is contained, was in the hands of my book-binder, and in this way the accident occurred.

My note on *Čog-ro*, which M. Pelliot (p. 7) does not well comprehend, seems to me quite plain. Indeed, I do not speak of *Čog-ro* as the name of a man, as insinuated by M. Pelliot, but simply as a name. I never had any other opinion than that *Čog-ro* is the designation of a locality, which is adopted by the men hailing from there, and is prefixed to their personal names. The "inadvertance" noted by M. Pelliot (p. 9) in regard to my writing *mān-pon* and *mān-dpon* is only seeming: *mān-pon* is the reading of the Tibetan text in the inscription; and *mān-dpon*, as explained on p. 76, is the restoration proposed by me. In accordance with the purpose of the passage on p. 80, there was only occasion to cite the latter.

I am not convinced that M. Pelliot's restoration of 鉢掣逋 to *ḡpal Čen-po* (No. 12) is to be preferred to my proposition *qba Č'e-po* (p. 28, *T'oung Pao*, 1914). The character 鉢 was certainly read with a final consonant (*pal*); but there are numerous examples in the transcriptions of Sanskrit where it merely corresponds to *pa* or *ba*, as in *parama*, *upala*, *pippala*, *pra-* 鉢喇, *udumbara* 優曇鉢羅.¹ In view of Chinese 鉢掣 (M. Pelliot wrongly writes 折, not given in the relevant passage of *Sin T'ang shu*, which has 掣), it is not impossible that in ancient Tibetan the word-formation **Čed-po*, as an equivalent of *Č'e-po*, existed² (for analogous cases of this kind see at the end of this notice). The supposition of a pronunciation *Č'er-po*, proposed by M. Pelliot, is impossible: *Č'er* (*Č'e-r*) is a terminative, and cannot be connected with any suffix like *po* or *pa*.³

¹ See also Baron A. VON STAEL-HOLTEIN, *Kien-Ch'ai-Pau-Tsan*, p. 177, No. 161 (*Bibl. Buddhica*, Vol. xv).

² My restoration was *Č'e-po*, not, as M. Pelliot makes me say, *Č'en-po*.

³ Compare examples in Jäschke's *Tibetan Dictionary*, p. 161 b, and in the *Dictionnaire tibétain-français*, p. 339 b.

With reference to *tu* 度, M. Pelliot states that it is attested in transcriptions only as 'du, not as 'dag. The former is doubtless the rule, but instances of 'dag nevertheless occur. JULIEN¹ says that in the *Fa yǎn chū lǐn* this character is used in rendering Sanskrit *dhakṣiṇa*, and Baron A. VON STAHL-HOLSTEIN² quotes an example where it has the value *da*.

In some cases it had seemed to me advisable, even at the sacrifice of rigid adherence to the Chinese transcriptions, to fall back on realities alive in the Tibetan language or in Tibetan records, rather than to resort to conjectural forms for which there is as yet no evidence. M. Pelliot is certainly right in maintaining that the transcription *fu-lu* 拂廬, in theory, would presuppose a Tibetan form *p'ru. I myself had noted on my index-card that it should lead to a dialectic form *sbru,³ but did not express this opinion, because such a word is not known at present. All we can say now is that *fu-lu* represents a word of the general or normal type *sbru*, whatever the possible dialectic variations may be. For the aforementioned reason I adopted the reading *p'o* in the name Sroś-ide-btsan, because *p'o* ('the male') is a title actually found in connection with royal names. In adopting the reading Sa-sroñ Ide-btsan, proposed by M. Pelliot (No. 23), we face the difficulty that we cannot correlate this with Tibetan historical tradition. Again, if we try to make sense of this, we shall have to change *sroñ* into *srub* (*sa-srub*, rendering of Sanskrit *bhūmipāla*); but it is not known to me that the Tibetan kings ever assumed such a title.

M. Pelliot's observations on the name Tu-fan are very ingenious, and will no doubt contribute toward a definite solution of this problem in the near future. In regard to his etymology of the word *la-pa*, proof seems to be required that *la-pa* is really evolved from the Chinese loan-word in Uigur-Mongol, *labai*, and that the supposed change of meaning really took place. At the outset, this theory is not very probable. A conch-trumpet (*labai*) and a copper or brass bass-tuba (*la-pa*) are entirely distinct and co-existing types of musical instruments, each of which has had its individual history. We know that the conch-trumpet came from India as a sequel of Buddhism. As to *la-pa*, J. A. VAN DERST (*Chinese Music*, p. 59) has aptly compared it with the *chatzzerah* of the Hebrews and the *tuba* of the Romans. Certainly there is no direct interrelation, but transmission through the medium of Persia and Turkistan seems to me a possibility deserving of consideration. First of all, it would be necessary, of course, to trace the history of the word and the object from Chinese records.

As regards the tones, I have to a certain degree modified my former views, since some time ago I had the opportunity of studying the admirable treatise

¹ *Méthode*, No. 2106.

² *L. c.*, p. 184, No. 222.

³ The interchange of *s* and *p* (as well as of *s* and *h*, *st* and *t*) is well known.

of H. Maspero, *Études sur la phonétique historique de la langue annamite*, in which a lucid exposition of the tone system is embodied. MM. Maspero and Pelliot's opinions on the historical development of the tones are very sensible, but in the present state of our knowledge it would be premature to decide positively in favor of the one or the other theory; a great amount of research will be required before we can formulate well-assured deductions.¹

It is interesting to learn that in the *Mantra mudropadaya* to be published by M. Hackin the inverted *i* serves for the expression of long *i* in Sanskrit words. This, however, would not signify at the outset that the same graphic expedient should denote *i* in indigenous Tibetan words: what holds good for the writing of Sanskrit need not be applicable to Tibetan. I had occasion to hear six different Tibetan dialects, and am unable to hear an *i* in any of these. The case alluded to by M. Pelliot remains to be seen.

As to *ma-mu* 末蒙, I can now offer a better equivalent for the first element of this compound. The explanation of the word *bud-med*, which I hazarded on p. 97, note (Y'oung Pao, 1914), is erroneous. The second element, *med*, has nothing to do with the verb *med* ("not to have"), but is indeed an independent base with the significance "female, woman." This is evidenced by the following facts. In the peculiar Bunan language we have a word *tsé-med* ("daughter, girl"), the element *tsé* being apparently connected with *tsi-tsi* ("child"), occurring in the same idiom.² The stem *tsi*, *tsé*, is encountered in Liao *tsa-ma*, *tsa-mai*, *tsa-mu*, and *tsa* ("woman")³ and A-hi Lo-lo *ma-ča-mo*.⁴ As *mu*, *mo*, *me* ("female"), is joined to this stem, the element *med* in Bunan *tsé-med* is likely to have the same meaning. In Lepcha we have two stems, *môt* and *mît* ("female"), used with or without the prefix *a*, and a word *mo* parallel with *môt*. In his *Lepcha Dictionary*, which is based on materials collected by Gen. G. B. Mainwaring, A. GRÖNWEDDEL (p. 289) tentatively suggested that Lepcha *mît* be regarded as related to *-med* in Tibetan *bud-med*. A differentiation of meaning has been evolved in Lepcha in this manner: that *mît* or *a-mît* particularly refers to women of superior beings (for example, *rum-mît*, "goddess"); and *mo*, *môt* or *a-mo*, *a-môt*, to the female of animals (for instance, *kik môt*, "hen"), but sometimes also to human beings.⁵ The

¹ On p. 25 M. Pelliot speaks of an hypothesis of mine regarding the function of certain Tibetan prefixes. This is not my hypothesis, but is merely the reproduction of observations and opinions given by Tibetan grammarians.

² JAMNICK, *J. A. S. B.*, Vol. 34, pt. 1, 1865, p. 93.

³ A. ROSE and J. C. BROWN, *Liao Tribes of the Russo-Chinese Frontier* (*Mém. As. Soc. Beug.*, Vol. III, p. 275).

⁴ A. LÉVARD, *Y'oung Pao*, 1912, p. 19; and *Bull. de l'École française*, Vol. ix, 1909, p. 552. Lo-lo-p'o *so-mu* and P'u-p'a *tsu-mu* appear to be associated with Mo-mu *tsu* and Tibetan *ô-mu*.

⁵ G. B. MAINWARING, *A Grammar of the Rûng (Lepcha) Language*, pp. 24, 25.

forms *mī-t* and *mō-t* represent derivations from the bases *mī* and *mō* by means of the formative suffix *-t*.¹ The same relation exists in Tibetan between *mo* and the element *-med* (*mōt*) contained in *bud-med*. The same word *med* or *mōt* may be recognized in the Chinese transcription *mot* 末.² As to the second element of the Sino-Tibetan compound, *moñ*, *muñ*, reference may be made to Miao-lao *mañ* ("spouse"),³ and to a word for "woman" in Kanauri, that is given by Pandit Joshi as *mun-rññ*, and by Bailey as *mōn-rññ*. From the standpoint of Tibetan, *moñ* may very well be *mō-ñ*; that is, a derivative from the base *mo* ("woman") by means of the suffix *-ñ*, so that we should obtain two derivatives from the same base,—*mo-t* and *mō-ñ*. Analogous cases in Tibetan are: *rtsa-ba* ("root"), forming *rtsa-d* and *rtsa-ñ*; *dro* ("wart"), forming *dro-d* ("heat") and *dro-n*; *lōi* ("heavy"), forming *lōi-d* ("weight") and *lōi-n*; *nu-ma* ("breast"), forming *nu-d-pa* and *nu-n-pa* ("to suckle"); *rya-ba* ("aged"), forming *rya-d-pa* and *rya-n-pa*. The word *mot-moñ* (in Tibetan presumably written *med-moñ*) preserved in the Tang Annals, accordingly, is a compound consisting of two synonyms, each meaning "woman."

B. LAUFER.

¹ For examples of such formations in Tibetan see SCHUMNER, *Mélanges asiatiques*, Vol. I, p. 346.

² In Kanauri or Kanawari, *med-po* is said to mean "master, owner, proprietor;" and *med-mo*, "mistress;" both words being borrowed from Tibetan (T. R. JOSHI, *Grammar and Dictionary of Kanawari*, p. 103, Calcutta, 1900). In the Kanauri-English vocabulary published by T. G. BAILEY (*J. R. A. S.*, 1911, pp. 315—364), these words are not given. Our Tibetan dictionaries have not recorded the two words with those meanings; but we know that in Tibetan, *med-po* means "a man who owns nothing, a pauper," and *med-mo*, "a penniless woman." The data given by Pandit Joshi, on the contrary, would presuppose a base *med* with the meaning "to own," which it is difficult to credit. There may be a misunderstanding on the part of the Pandit, or the two words may be peculiar to Kanauri without bearing any relation to Tibetan.

³ P. VIAL, *Les Lolos*, p. 36.

NÉCROLOGIE.

Frederick Victor DICKINS.

Mr. DICKINS né le 24 Mai 1838, est mort âgé de 77 ans, le 16 août 1915, à Seamd Lodge, Wiltshire. Il avait servi comme médecin de marine en Chine et au Japon de 1861 à 1866; il fut lecteur de japonais à l'Université de Bristol. Il a écrit un grand nombre de volumes et d'articles dont nous indiquons les principaux.

H. C.

- *Japanese Lyrical Odes; Translations of the Hyak Nin is 'Sôin, by a Century of Poets, into English Verse, with Explanatory Notes, the text in Japanese and also in Roman letters, with a full index; Catalogues of Books referred to, and lists of Titles, &c. &c.* London. 1866, in-8.
- **忠臣蔵**, Chishikugura, or the Loyal League, a Japanese Romance, Translated by Frederick V. Dickins, with Notes and Appendix containing a metrical version of the Ballad of Takasago and Specimens of Original Text in the Japanese Character. Illustrated by numerous Engravings on Wood, drawn and executed by Japanese Artists, and printed on Japanese Paper... — Yokohama, Printed at the "Japan Gazette" Office, 1875, in-8, pp. v + ff. 2 n. ch. + pp. 160 + app. pp. 56 + préf. en japonais.
- *Chishikugura, or the Loyal League; a Japanese Romance.* London: Allen & Co., 1880.
- *The Story of Shintô Dôji, From a Japanese 'Makimono' in Six 'Kuo' or Rolls.* (*Journal As. Soc., N. S., Vol. XVII, Art. I, Jan. 1885, pp. 1—28.*
 Tirage à part, in-8, pp. 28.
- *The Story of the Old Bamboo-Hewer. (Taketori no Okina no Monogatari.) A Japanese Romance of the Tenth Century. (Ibid., Vol. XIX, Art. I, Jan. 1887, pp. 1—55.)*
- *The Origins of the Japanese State. (English Historical Review, XIV, April 1899, pp. 209—234.)*
- *The Statue of Amida the Nirvanic in the Musée Carnavalet (Ibid., July 1903, pp. 433—446.)*
- *Primitive and Medieval Japanese Texts. Translated into English, with introductions, notes, and glossaries.* Oxford: Clarendon Press, 1906, 2 vol. in-8.
- *The Makura-Kotoba of Primitive Japanese Verse. 1903, in-8, pp. 113.*
 Transactions Asiatic Society of Japan, Vol. XXXV, Pt. 4, 1905.
- *The Life of Sir Harry Parkes, K.C.B., G.C.M.G., sometime Her Majesty's Minister to China and Japan. By Stanley Lane-Poole.* London, Macmillan, 1894, 2 vol. in-8.
 Dickins est un des auteurs du Vol. II: Minister Plenipotentiary.

BULLETIN CRITIQUE.

History of Upper Assam, Upper Burmah and North-Eastern Frontier by L. W. SHAKESPEAR (Colonel, 2nd Goorkhas).
Macmillan and Co., London, 1914, in-8, pp. xvii—272.

La littérature étrangère traitant de l'histoire de l'Assam n'est pas abondante ainsi qu'on pourra le constater dans le premier volume de notre *Bibliotheca Indosinica*, aussi ce volume est-il le bien venu. En 1841, William ROBINSON avait donné dans sa Description de l'Assam publiée à Calcutta un abrégé de l'histoire de ce pays. Mr. E. A. GAIR, du Service civil de l'Inde, a fait imprimer en 1906, également à Calcutta, une *History of Assam* qui est le premier effort sérieux pour nous donner en anglais l'historique de cette ancienne contrée trop peu connue. En français, on peut dire qu'il n'existe rien en dehors du *Tarikh-i-Asham*, Récit de l'Expédition de Mir Djumlah au pays d'Assam, traduite de l'hindoustani par Théodore PAVIE en 1845. Cependant les Français ont laissé leur trace dans le pays: deux prêtres des Missions étrangères de Paris, les abbés KUICK et BOURRY furent assassinés le 1^{er} septembre 1854 par les Abors, dans le voisinage de Rima, alors qu'ils cherchaient à pénétrer au Tibet; ces meurtres causés par le désir de piller les bagages des voyageurs furent châtiés par le lieutenant EDEN sur l'ordre de Lord DALHOUSIE, Gouverneur général de l'Inde; cet événement est raconté d'ailleurs par le Colonel SHAKESPEAR qui parle également du voyage du Prince Henri d'Orléans du Yun nan

à Calcutta par Rima et Sadiya en 1895. Le Colonel Shakespear fait remarquer qu'aucun autre Européen n'a pu depuis lors visiter cette région jusqu'à ce que le capitaine BAILLY, ancien agent commercial à Gyantsen, au Tibet, réussit à passer de la Chine aux Indes, par Bhatang, Rima et Sadiya.

Dans son ouvrage, le Colonel Shakespear s'occupe de l'histoire de cette partie du Haut Assam qui s'étend de Goalpara à Sadiya, c'est-à-dire la vallée du Brahmapoutre. Quelques inscriptions jettent un peu de jour sur une histoire dont la période ancienne est purement légendaire; l'une sur un pilier d'Allahabad érigée à l'époque de Tchandragupta (316 — 292 av. J.-C.) nous apprend que Kāmarupa (nom de l'Assam d'alors) était un état à l'est du Nepal jusqu'où avait pénétré la renommée de ce souverain célèbre; ce pays était alors sans doute gouverné par les rois hindous Khettri, les plus anciens souverains de l'Assam, qui auraient fait la conquête du Kāmarupa vers 400 av. J.-C., et y apportèrent cette forme primitive de l'hindouisme qui existait avant le bouddhisme; une autre inscription sur une plaque de cuivre commémore l'invasion en 57 av. J.-C. de VIKRAMADITYA, roi bouddhiste de Ujain; une troisième inscription marque qu'à la fin du IV^e siècle, le roi gupta, Samudra, exigea le tribut de Kāmarupa, et qu'au siècle suivant le pays fut gouverné par les Guptas qui maintinrent leur administration jusqu'à la première moitié du IX^e siècle. La dynastie de Pal qui compte douze rois entre 830 et 1140 de notre ère fut créée par le Rajput ITARI (Dharm Pal) dépossédés par les Senas du Bengale qui dominèrent dans la partie orientale de l'Assam. D'après d'autres inscriptions sur des plaques de cuivre, certains chefs Pal entre 990 et 1142 ap. J.-C. cédèrent des terres à des Brahmanes, mais en réalité c'est au célèbre pèlerin chinois Hiouen Tsang qui visita le pays, Gauhati en particulier, en 630, que nous devons les premiers renseignements authentiques sur le Kāmarupa.

Trois grandes tribus ont dominé dans différentes parties du Haut Assam; la première qui arriva dans le pays est, pense-t-on, celle des *Kacharis* venus du pays appelé par les Népalais, la contrée des Kacca, au pied des collines de Darjiling; ils traversèrent le Brahmapoutre et s'établirent dans le district de Nowgong entre Jorhat et Gauhati, d'où ils se répandirent dans le district actuel de Cachar d'où ils expulsèrent les gens de Tippera; seule une branche des Kacharis, les Chutiyas, avait une écriture dont ils ne se servirent d'ailleurs pas pour conserver leurs annales.

La seconde tribu à prendre de l'importance fut celle des *Kocches*, alliés aux Kacharis, qui venaient de l'est de la rivière Karatoya où se trouve aujourd'hui le petit état de Cooch Behar. A leur apogée, leur royaume comprenait tout le Kamarupa qui occupait, alors, principalement la rive nord du Brahmapoutre, avec Gauhati et le pays dans la direction de Goalpara sur la rive sud. C'est par les historiens mahométans qu'on connaît le passé de ces tribus qui jusqu'à l'arrivée des Ahoms ne gardaient pas d'Années.

La troisième et la plus importante tribu est celle des *Ahoms* qui ont leurs annales *buranjis* relatant la série des événements depuis leur arrivée en 1220 ap. J.-C. A ces trois tribus, il faut ajouter les tribus shan non bouddhistes de race Tai du vieux royaume de Pong, aujourd'hui Mogoung. Le roi ahom *Sukamksung*, terminant une longue série de guerres commencées en 1520, s'empara, après une résistance désespérée, de la capitale des Kacharis, Dimapur, sur le Dhansiri, qui fut mise au pillage; les Kacharis survivant à ce désastre se retirèrent dans le pays connu aujourd'hui comme les North Cachar Hills, et fondèrent une nouvelle capitale à Maibong, abandonnant les vallées du Dhansiri et du Doyang qui retournèrent à l'état sauvage et forment maintenant la forêt de Nambhor. De nouveau les Kacharis furent écrasés et leur capitale fut prise en 1696 par Rudra Sing, roi des Ahoms, qui envoya

contre aux deux armées, l'une de 37000 hommes par le Dhansiri à Dijoa, l'autre de 34000 hommes via Raha et la vallée de Kopili: TAMRADHO, roi des Kacharis, qui s'était déclaré indépendant fut capturé ainsi que le Raja de Jaintia. En 1817, les Manipuri, avec leur chef Raja Manjit, plaça les Kacharis sous leur domination, mais eux-mêmes, à leur tour, ils furent chassés par les Birmans (1819—1820). Le premier voyageur anglais qui ait visité Khaspur, dans le Cachar, est Verelst venant du Bengale (1763). Aujourd'hui les Kacharis sont un peuple d'agriculteurs répandus dans le Cachar et dispersés dans le Haut Assam, tandis que Maibong et les North Cachar Hills sont en ruines ou retournés à l'état de jungles.

La puissance de la tribu Kocch s'élève avec un certain SHANKALDIP au milieu du V^e siècle, l'un de ses rois, NAN NARAIN, qui florissait au XVI^e siècle et régna cinquante ans, bâtit ce qui est maintenant Cooch Behar pour remplacer la vieille ville de Kamatapur détruite lors des invasions mongoles, poursuivit les guerres commencées dès 1332 contre les Ahoms et s'empara même (1502) de leur capitale Garhgaon, dans le voisinage de Sibsagar actuel. Cooch Behar tomba entre les mains des Anglais en même temps que le Bengale.

Les Ahoms, avec l'h adouçi en s, ont donné leur nom à l'Assam, c'étaient des Shans non bouddhistes, païens et adorateurs du diable; venus au commencement du XIII^e siècle de Mogoung, dans la Haute Birmanie, ils marchèrent vers l'ouest, atteignirent l'extrémité orientale de la vallée du Brahmapoutre et formèrent des établissements sur la rivièrè Dihing à Namrup, avoisinant les tribus Chutiya qui occupaient le pays à l'est de la rivière Subansiri, et Moran entre les rivières Dikkoo et Dihing; bientôt ils entrèrent en lutte avec ces derniers et, dès 1236, s'établirent à Abhaypur, puis, quarante ans plus tard, à Charaideo qui devint leur capitale et resta un lieu de pèlerinage même lorsque leur principal établissement eut été transféré à Garhgaon; au XIV^e siècle ils commencèrent les

guerres contre les Kocches et en 1380 ils écrasèrent la puissance Chutiya. Il nous faudrait plus de place que nous ne pouvons disposer pour raconter les longues luttes contre les Kacharis et les Mongols.

Il semblerait d'après de vieilles légendes que la plus ancienne religion des aborigènes, c'est-à-dire les Kacharis auxquels étaient alliées les tribus Koech, Chutiya et Moran (Matak) était l'animisme et le culte des démons. Nous avons déjà signalé l'existence vers 400 av. J.-C. de l'hindouisme avant l'introduction du brahmanisme par des brahmanes venus au milieu du XV^e siècle de la ville de Gaur (Bengal). De toutes les ruines de l'Assam, ce sont celles découvertes en 1841 par le lieutenant Biggs, du vieux fort de Dimapur, dans la forêt de Nambhor, capitale des Kācharis jusqu'au milieu du XVI^e siècle, qui ont le plus attiré l'attention des archéologues.

Des chapitres de l'ouvrage sont consacrés par le Colonel Shakespear aux Bontanais; aux Akas, petite tribu alliée aux Naga, sur la rive sud du Brahmapoutre; aux Daphlas et aux Mirris, alliés aux Abors, à l'est des Akas; aux Abors qui occupent la région montagneuse entre les rivières Dihang (Tsan Po) et Dibong, divisés en quatre clans: Menyong et Paughi entre les rivières Yamne et Dihang, ouest de cette dernière, Padam, à l'est de la Yamne, et Shimong, au nord, sur la rive gauche du Dihang; ce sont ces Abors qui ont causé tant de difficultés aux Anglais dans les dernières années; aux Mishmis, voisins des Aboms, mais leur sont complètement étrangers comme langue et coutumes, limités à l'ouest par la rivière Dibong et s'étendant au nord et à l'est du Hkamti Long; aux Hkamtis, de même race que les Ahoms, mais bouddhistes; leur pays est appelé Bor Hkamti par les Assamese et Hkamti Long par les Birmans; ils sont installés à Sadiya depuis la fin du XVIII^e siècle; aux Singphos (Singpho en assamese et Chingpaw en birman signifient «homme») qui habitent les deux versants de la chaîne Patkoi.

Des tribus administrées par le gouvernement de l'Assam, l'auteur passe à celles qui dépendent de celui de la Birmanie: les Kachins divisés en un grand nombre de communautés, apparentés aux tribus Marip, Lahtaung, Lepai, la plus considérable, N'khums et Marans, et de même race mais différant de mœurs et de langage, les Marus, Lashis, Yawyins ou Lihaws, et Khunongs. Le Colonel Shakespear traite ensuite des Palaungs, Was et Panthays, enfin des tribus Nagas les plus puissantes de toutes qui habitent la région montagneuse au sud de la vallée du Brahmapoutre depuis les Singphos jusqu'aux North Cachar Hills, divisées en quatre grands groupes: Angami, Sema, Aoh, Lhota, et deux plus petits: Rongma et Kaccha Nagas. Chacune de ces tribus réclamerait une monographie; il est juste de constater qu'elles ont déjà été l'objet de nombreux travaux ainsi qu'on pourra le constater dans le Vol. I de notre *Bibliotheca Indosinica*.

HENRI CORDIER.

BIBLIOGRAPHIE.

LIVRES NOUVEAUX.

De la Bibliothèque Nationale Vajirāñña de Bangkok, nous avons reçu la suite des *Burney Papers*: Vol. IV, Part 2 (March 1841 to December 1846). — Vol. V, Part I (Retrospect of British Policy from the period of the first Establishment of Penang 17th July 1786 — 1839). Aussi *The Crawford Papers* A Collection of Official Records relating to the Mission of Dr. John Crawford sent to Siam by the Government of India in the year 1821. Enfin (en siamois): Evidence given by "The King in the Temple", i. e. King Udumborraj B.E. 2310 regarding Ayuddhya, newly translated and revised from a copy of the Burmese Manuscript formerly kept in the King's Library in Mandalay, and now published with a preface by Prince Damrong.

Nous avons reçu les travaux suivants de l'Institut Oriental de Vladivostok:

Томы 53-55. Н. Н. Кохановскій. Экономика и экономическій принципъ въ ихъ отношеши къ общей системѣ социальныхъ наукъ.

Томъ 57, вып. 1-й. Г. И. Сороколетовъ. Матеріалы по народному образованію въ Японіи. Часть 1-я.

La Deuxième Partie consacrée à la *Sculpture bouddhique* du T. I de la *Mission archéologique dans la Chine Septentrionale* par Edouard CHAVANNES vient de paraître chez Ernest Leroux. Nous reviendrons sur cet ouvrage important.

Le Dr. Berthold LAUFER vient de publier deux nouveaux mémoires importants: *The Story of the Pinna and the Syrian Lamb* (Rep. from *The Journal of American Folk-Lore*, Vol. XXVIII) qui soulève la vieille question de l'*Agnus scythicus* et du *Chouei Yang*, et *The Eskimo Screw as a Culture historical Problem*.

Le Professeur Vilhelm THOMSEN a publié dans *Vor Tid* (1^{ère} année, No. 2) un mémoire intitulé *Fra Øst-Turkestan Fortid*.

Nous avons reçu des Douanes maritimes chinoises: *Returns of Trade and Trade Reports*, 1914. — Part II. — *Port Trade Statistics and Reports*. — Vol. I. — *Northern Ports* (Aigun to Kiaochow).

Le *Journal of the North-China Branch of the Royal Asiatic Society*, Vol. XLVI—1915, vient d'arriver; il contient: *Proceedings*. — *Putoshan*. By ARTHUR STANLEY. — *Notices of Christianity in China, extracted from Marco Polo*. By REV. A. C. MOULE. — *Chinese Pagodas*. — *The Ch'ing Ming Festival*. By REV. LEWIS HODGINS. — *Reminiscences of a Chinese Viceroy's Secretary*. Translated by "ARDSHEAL". — *The Wu Pan Tablet*. By REV. G. G. WARREN. — *On a large Meteorite*. By W. F. TYLER. — *William Woodville Rockhill*. By F. E. HINGELEY. — *Reviews of Recent Books*, etc.

CHRONIQUE.

ETATS-UNIS.

Nous sommes heureux d'annoncer que notre excellent collaborateur, le Dr. Berthold LAUFER vient d'être nommé en titre « Curator of Anthropology » du Field Museum, de Chicago, à la place du Dr. G. A. DORSEY qui a donné sa démission.

NOTES ON THE RELATIONS AND TRADE OF CHINA WITH THE EASTERN ARCHIPELAGO AND THE COAST OF THE INDIAN OCEAN DURING THE FOURTEENTH CENTURY

PART II

BY

W. W. ROCKHILL.¹⁾

IV.

Coasts of India.

60 (1). *Tao i chih liö*. 84. PÊNG-KA-LA (朋加刺). Bengal.

There are five ranges of high and rocky mountains, and a dense forest growth (covers them)²⁾. The people live scattered about, occupied the whole year ploughing and sowing, so there is no waste land; the fields are most luxuriant, there are three crops a year, and the prices of things are fair and moderate. In olden times it was called (by the Chinese) the Prefecture of Hsin-tu-chou fu (忻都州府, "Prefecture of Hindustan")³⁾.

The climate is continually hot. The usages and customs of the people are pure and virtuous. Both men and women wear a fine cotton turban and a long gown.

The government tax is of two tenths. The government casts a silver coin called a *t'ang-ka* (唐加, *taŋka*) which weighs eight

1) See *T'oung Pao*, July, 1914, p. 419, March, 1915, p. 61, May, 1915, p. 236, July, 1915, p. 374.

2) I assume that the author is referring to the locality in Bengal where his junk anchored, unless, and this seems rather unlikely, he landed, as did Fei Hsin, at Chittagong, and he refers to the mountains of northern Arakan.

3) During the T'ang dynasty there was a Prefecture of Hsin-tu.

candareens (or, eight-hundredths of an ounce Chinese)¹⁾. In their dealings they use cowrie shells, 10,520 old being exchanged for a small coin (i. e., a *tangka*). It is an extremely convenient (currency) for the people.

The native products comprise cotton stuffs (like our Chinese) *pi pu* (苳布), *kao-ni pu* (高你布), and *tou-to-chin* (兜羅錦), and also kingfishers' feathers²⁾.

The goods used (by the Chinese) in trading are southern and northern silks (南北絲), coloured taffetas, satins, cloves, nutmegs, blue and white china-ware, white (yak hair?) tassels, and the like.

These people owe all their tranquillity and prosperity to themselves, for its source lies in their devotion to agriculture, whereby a land originally covered with jungle has been reclaimed by their unremitting toil in tilling and planting. The seasons of Heaven have scattered the wealth of the Earth over this kingdom, the riches and integrity of its people surpass, perhaps, those of Ch'ien-chiang (Palembang) and equal those of Chao-wa (Java).

60 (2). *Ying yai sheng lau*. 17. PANG-KO-LA (榜葛刺).

The country is extensive, the population dense, the wealth and property abundant and great.

Travelling by sea from the country of Su-mên-ta-la (Acheh), an island (i. e., the Mao shan, Pulo Weh) and the Tsui-lau islands

1) Ma Huan (*infra*, 60 (2)) says the *tangka* of Bengal weighed three tenths of a tael. *Hsi yang chao hung tiao* (x, 2, 15* (Pang-ko-la), says the silver coin of Bengal weighed three tenths of a tael, official weight, and was an inch and two tenths in diameter, with designs on both sides. Cowries, it adds, were taken by weight. There was also a gold tanku in Bengal, Iba Betata, III, 426. See also Yule and Burnell, *Glossary*, 632.

2) Ma Huan (60 (2)) writes the word *pi pu* 苳布 and says that in Bengal it was called *pi-pi* (畢泊). I do not know what kind of fabric is designated by the name *kao-ni pu*. Ma Huan says that the long nap cotton fabric called by the Chinese *tou-to chin* was known as *ma-hai-ma-to* in Bengal.

(Nicobars) are sighted, (whence) going north-westward for twenty *li* (sic, days?) one arrives at Chih-ti-chiang (沛地港). (Here) one changes to a small boat, and after going five hundred odd *li*, one comes to So-na-erh-chiang (鎖納兒港), whence one reaches the capital. It has walls and suburbs; the king's palace, and the large and small palaces of the nobility and temples, are all in the city. They are Muslims¹).

The customs are pure and honest. The men and women are all black coloured, white ones are rare. All the men tie up (or "cut off", 祝) their hair, and wear a white cotton turban, and on their bodies a long gown with a round collar and held around them by an embroidered sash. On their feet they wear leather slippers.

The king and his highest officers (將領) follow in their caps and clothing the Moslim style. They are very clean and neat. The language in universal use is Bengali (榜葛俚); there are also those who speak in Farsi (巴兒西, Persian).

In trade they use a silver coin called *tang-ka* (儻伽) weighing three candareens, an inch and two tenths in diameter and with writing on either side. With it they settle the price of goods according to weight (以此權物價重輕).

They have also sea-shells called *k'ao-li* (考黎, Hind. *kauri*).

Their marriages and funerals are both according to the Moslim religion.

1) Cf. Geo. Phillips, *JR A S.*, 1895, 529—533. *Hai yang chow tung tien lu*, 2, 14* (Pang-ko-lu), says: "This country is north-west of the T'ai-lan islands (Nicobar), possibly seven thousand *li*. It is also called Eastern India. It is a thousand *li* square. Going from So-mu-ta-la by the Mao sham (Pulo Weh) and the T'ai-lan on a north-westerly course with a fair wind, Chih-ti-chiang is reached in twenty days." Chih-ti-chiang is, as stated by Phillips, the Sadkawan of Ibn Batuta, the Chittagong of the present day. Phillips has also identified So-na-erh-chiang with the Sonarkawan of Ibn Batuta, the Sonargawan of Fra Mauro's map, i. e., Sonergaon, fifteen miles east of Dacca.

According to *Ming shih*, 326, 5¹—6, the king of Bengal Ai-yu-shih-t'ing (諱牙思丁) sent a mission to Court in 1408. Down to 1439 missions came nearly every year.

The climate is constantly as hot as in summer.

Their punishments include beating with the heavy bamboo and banishment.

Their officials have seals and communicate by despatches. The army has pay and rations. The commander of the army is called *pa-sū-la-erh* (吧斯刺兒, Persian, *sipāh-sālār*, "army leader").

There are geomancers, physicians, diviners, all kinds of artisans skilled in every branch of work. There are people who wear a shirt with black and white patterns and held by a scarf with a fringe round their waists of coral and amber coloured beads, and with bracelets of beads fastened on their wrists. They are good singers and dancers to enliven drinking and feasting.

There are people called *kên-hsiao-su-la-nai* (根肖速魯奈) who are mountebanks. Every day at the stroke of five they come around the gates of the houses of the high officials (將領) and of the wealthy people blowing *so-na* (鎖捺, Persian *zurnd*, flageolets) and beating drums, and then pass on to another. When comes the breakfast hour, they go to each house to be rewarded with wine, food, money, or other things¹). Besides these there are also every other kind of players (百戲).

(Thus there are people who) go about the market places and to the homes with a tiger held by an iron chain. They undo the chain, and the tiger lies down in the courtyard. The naked man (then) strikes the tiger who becomes enraged and jumps at him, and he falls with the tiger. This he does several times, after which

1) Chang Shêng's edition has: "There is a class of people called *kên-hsiao su-la-nai* or musicians. Daily in the fifth watch they come and stand before the front doors of the chiefs and wealthy people, one of them blowing a *so-na* (flageolet), another beating a small drum, at first crescendo, then slowly, then in measured time. After that they gradually press the measure, then stop." I cannot say what word *kên-hsiao* represents, *su-la-nai* may be the same as *so-na*, Persian *zurnd*, and the five characters be a Persian (?) name for "late player".

he thrusts his fist in the tiger's throat without it wounding him. After this performance he chains him up again, and the people of the house do not fail to feed the tiger with meat and to reward the man with money, so the tiger tamer has a promising business.

Their almanac has twelve months without any intercalary ones.

The native products are red millet (紅粟), sesamum, beans, glutinous millet, and rice which ripens twice a year. The vegetables comprise ginger, mustard, onions, garlic, cucumbers, and egg-plant. They have spirits made from the cocoa-nut, from the nut of a tree (樹子酒), and kajang wine. Betel-nuts take the place of tea (as with us in China).

The domestic animals comprise the camel, horse, mule, water-buffalo, cattle, the marine goat, fowls, ducks, pigs, geese, dogs, and cats.

Their fruits are the banana, the jack-fruit, sour pomegranate, sugar-cane, sugar, and honey.

Of cotton fabrics they have *pi pu* (華布) of several colours, it is called *pi-po* (畢泊); it is over three feet broad and fifty-seven feet long. It is as fine and as glossy as if painted (膩如粉).

There is a ginger-peel-yellow cotton stuff called *man-chih-ti* (滿者提), which is four feet broad and over fifty feet long, it is very closely woven and strong. What is called *sha-na-pa-fu* (沙納巴付, Persian *shānābāfi*) is five feet broad and thirty feet long, it is like pongee (? 生羅), and is a cotton gauze (布羅). What is called *k'i-pai-lo-ta-li* (圻白勒搭黎) is three feet broad and sixty feet long. (This) cloth is loosely woven (眼疎) and coarse, it is a cotton gauze (沙布).

The stuff used for turbans is called *sha-ta-erh* (沙塌兒), it is five inches broad and forty feet long, and is like our *sun-so* (三梭).

Ma-hei-ma-lo (葛黑葛勒) is a stuff four feet broad and twenty feet long, on the wrong side it is covered with nap half an inch long; it is (our) *tou-lo-chin* (兜羅錦)¹.

They weave with silk, embroidered silk handkerchiefs (絲嵌幌). They have also brocaded taffetas. Their paper is white; it is made out of the bark of a tree, and is as smooth and glossy as deers' skin².

Their household implements include lacquered cups and bowls (髹漆杯盤), steel guns, and scissors (鎖鐵鎗剪).

60 (3). *Hsing ch'a shêng lan*. 32. PANG-KO-LA (榜葛刺).

This country can be reached from Su-mên-ta-la with a favourable wind in twenty days. There is also a country of Western Yin-tu (艮西印度之地, India).

To the west (Bengal) confines on the Kingdom of the Precious Diamond Throne, called Chao-na-fu-erh (詔納福兒), which is the place where Çakya obtained wisdom.

In the 13th year of Yung-lo (1415) under imperial orders

1) Phillips, *op. sup. cit.*, 531, has, instead of *pi-po, pi-chia* (畢治) for which he suggests an original *bettula*: Cf. Ibn Batuta, IV, 2, 3.

Deserte Barboza, 179, gives a detailed list of the textile fabrics of Bengal. The names he gives are *saravatis* much valued for women's headgear, *wamma*, *daruga*, *chautar*, *topos*, *sanabafos*. "They are all of the length of twenty cubits, very little more or less . . . and a good *sanabafos* was worth two ducats, and a piece of muslin for women's caps three hundred maravedis; and a shanar of the best quality six hundred maravedis." Instead of *k'i-pai-ho-to-li*, Phillips' text reads *kin-pai-tung-to-li* (忻白動搭黎); and the *Hsi yang chao kang tien lu*, *kin-pai-k'ia-to-li* (忻白動搭嚟). *Tung hai yang k'ao*, 4, 7, says, *tou-lo-chin* is now called *ch'z-lo-hien* (哆羅連). *Ma-hei-ma-lo* may be *malmai* "muslin"; although the nap on the fabric here described would seem to point to some other tissue. Cf. also for other names of Bengal tissues, Liachoten, I, 95-96 (Hakluyt Soc. edit.).

2) *Hsi yang chao kang tien lu*, 9, 15^a (Pang-ko-la), says, paper of Bengal was mulberry bark paper (桑皮紙).

twice issued (二次上命), the eunuch Hou Hsien (侯顯) and others went with a fleet to present in his name presents to the King, his consort, and chiefs.

This country has a sea-port on a bay called Ch'a-ti-chiang (察地港); here certain duties are collected.

When the King heard that our ships had arrived there, he sent high officers to offer robes and other presents, and over a thousand men and horses came also to the port. After going sixteen stages (we) reached So-na-erh-chiang (瑣納兒江) which is a walled place with tanks, streets, bazaars, and which carries on a business in all kinds of goods. (Here) servants of the King met (us) with elephants and horses. Going thence twenty stages (we) came to Pan-tu-wa (板獨哇)¹ which is the place of residence of the ruler. The city walls are very imposing, the bazaars well arranged, the shops (of the same business?) side by side, the pillars in orderly rows (櫛接棟); they are full of every kind of goods.

The dwelling of the King is all of bricks set in mortar, the flight of steps leading up to it is high and broad. The halls are flat-roofed and whitewashed inside. The inner doors are of triple thickness and of nine panels. In the audience hall all the pillars are plated with brass ornamented with figures of flowers and animals, carved and polished (雕琢). To the right and left are long verandahs (廊) on which were drawn up (on the occasion of our audience) over a thousand men in shining armour, and on horse-back outside, filling the courtyard, were long ranks of (our) Chinese (soldiers) in shining helmets and coats of mail, with spears, swords, bows and arrows, looking martial and lusty.

¹ I presume that Patna is meant. The name does not occur in any other work of this period, except in the *Hsi yang chao lung tien lu*, which quotes it from Fei Hsien's work.

Hou Hsien's biography is given in *Ming shih*, 304, immediately after that of Ch'eng Ho. This mission of 1415 appears to have been the first and only one sent by the Ming to Bengal.

To the right and left of the King were hundreds of peacock feather umbrellas, and before the hall were some hundreds of soldiers mounted on elephants. The King sat cross-legged in the principal hall on a high throne inlaid with precious stones, and a two-edged sword lay across his lap.

Two men bearing silver staffs and with turbaned heads came to usher (us) in. When (we) had taken five steps forward, (we) made a salutation (一乎). On reaching the middle (of the hall) they halted, and two other men with gold staffs led us forward with the same ceremony as previously. The King having returned our salutations, kotowed before the Imperial Mandate, raised it to his head, then opened and read it. The imperial gifts were all spread out on carpets in the audience hall.

The King entertained the imperial envoys at a banquet, and our soldiers were given many presents. (At the banquet to the envoys) eating beef or mutton was forbidden, nor could they drink wine for fear of trouble (恐亂性) and because it is a breach of decorum, but they drank sweetened rose-water (sherbet). When the banquet was over, (the King) bestowed on the Envoys gold basins, gold girdles, gold flagons, and gold bowls; all the Assistant Envoys receiving the same articles in silver, and each of the lower officials a golden bell and a long gown of white hemp and silk (紉紵絲長衣). All the soldiers (of the escort) got silver money. Of a truth, this country is rich and courteous. After this (the King) had made a case (lit., tube) in gold, in which he placed a Memorial to the Emperor, written on a leaf of gold, and the Envoys received it from him with due respect in the audience hall, together with various gifts for the Emperor.

The people of this country are most generous in character. The men wear a white cotton turban and a long white cotton shirt. On their feet they wear low sheep-skin shoes with gold thread.

The smarter ones think it the correct thing to have designs on them. Everyone of them is engaged in business, the value of which may be ten thousand pieces of gold, but when once a bargain has been struck, they never express regret.

The women wear a short shirt, and wrap around them a piece of cotton, silk, or brocade. They do not use cosmetics, for they have naturally a white complexion; in their ears they wear earrings of precious stones set in gold. Around their necks they hang pendants, and they do up their hair in a knot behind. On their wrists and ankles are gold bracelets, and on their fingers and toes rings.

There is a clan of people called *Yin-tu* (印度, Hindu) who do not eat beef, and the men and women do not eat in the same place. When the husband dies, the wife does not marry again, nor does the husband marry again when the wife dies. If there are any very poor among them and with no means of support, the various families of the village will, in turn, support them, but they are not allowed to seek their food in other villages. So (the people) are praised for their broad public spirit.

The soil is fertile and produces in abundance, for they have two crops every year. They do not weed or hoe their fields, but men and women work in the fields or weave according to the season.

Among their fruits they have the *po-lo-mi* (jack-fruit), which is as big as a bushel measure and wonderfully sweet; also the *an-mo-lo* (菴摩羅, *amra*, mango), though it has a sour flavour, it is very nice¹). For the rest they have fruits and vegetables, cattle, horses, fowls, sheep, ducks, and sea-fish. In their very extensive trade they use cowrie shells instead of coin.

The natural products are fine cotton cloths (muslins), *sa-ha-la*

1) *Hai yang chao kang tien lu*, 2, 15^a (Pang-ko-la), says, the mango is also called *yü-kau* (餘甘). Chao Ju-kau mentions the *yü-kau* among the fruits of Cho-liu (Cassamandel coast). Hirth and Rockhill, *op. sup. cit.*, 96, 100, n. 9.

(撒哈刺)¹⁾, rugs, *tou-lo-chin* cotton stuffs, rock-crystal, agate, amber, pearls, precious stones, sugar, ghee, kingfishers' feathers, and veils (手巾) of sundry colours to veil the face.

The goods used (by the Chinese in trading here) are gold, silver, satins, silks, blue and white porcelain, copper, iron, musk, vermilion, quicksilver, and grass mats.

61 (1). *Tao i chih li*. 99. WU-TIEN (烏參). Orissa.

It is the old name of Yin-ch'ieh-li (國因伽里之舊名也).²⁾ Hills and woods are very scarce, the country is bare and swampy and lies half waste. The people devote themselves to agriculture. The soil is fertile, and the crops luxuriant, and as there is no danger for the grain nor pests of locusts, they have three harvests yearly.

They are as honest as Buddhas; they do not (even) pick up things (dropped) on the highways. All the villages live on terms of amity, and their gentry esteem right doing. The usages are virtuous, and the people are more prosperous than in any other foreign land.

The climate and the people, both male and female, are as in Pêng-ka-la (Bengal).

The tax (or customs dues, 稅) are of one tenth. The natural

1) *Sa-ha-la* is mentioned in other parts of this work as a product of Ormuz and of Aden. It seems to have been a kind of thin veiling or gauze. See *infra*, 73 (2), the extract from *Hsi yang chiao kang tien lu*.

2) *Wu-tieh*, in Cantonese *U-t'ei*, must be the *Wu* (or *U*)-t'ei (烏茶) of Yüan Chuang, the modern Orissa. See Watters, *On Yüan Chuang's Travels*, II, 194. On Phillips' XVth century map there is a *Wu-li-shih* (烏里舍城), which Phillips says was the city of Orissa. Yin-ch'ieh-li given by our author as the modern name of *Wu-tieh* is quite unknown to me; I can suggest no explanation of it.

It appears from other passages in the *Tao i chih li* (see 59 (1), 63 (1), 66 (1)), that the rice trade of *Wu-tieh* was very extensive.

products are big (. . . , *character missing*) *hei-nieh* (大口黑圓), kingfishers' feathers, beeswax, and fine cotton stuffs.

The goods used (by the Chinese?) in trading are gold, silver, coloured satins, white silk (i. e., raw silk? 白絲), cloves, nutmegs, *hsü* (or *mao*) *hsiang* (茅香), blue and white china-ware, drums, lutes (瑟) and the like.

Each of their silver coins weighs two mace eight candareens, and is equivalent in value to ten taels of (our) *chung-t'ung ch'ao* (中統鈔, paper money). It exchanges for 11.520 odd cowries. Now 250 cowries buy one basket (*lit.*, "pointed basket" 尖籬) of cooked rice, and as the standard bushel (of the country) contains a bushel eight pints (Chinese measure), each coin can purchase 46 baskets of rice. On an average 73 bushels, two pints, can feed two men for a year and something to spare. Of those who go to trade in this country (from China?) nine out of ten do not return (so easy it is to gain a livelihood there, so cheap is living).¹⁾

62 (1). *Tao i chih liu*. 82. Hsiao Kū-nan (小俱喃). Kain Colan.

It is in the neighborhood of the Tu-lan rocks (都欄礁).²⁾ The soil is black and well suited for the raising of cereals. The

1) Iba Batuta, IV, 910, 911, speaking of Bengal, says, he never saw a country where food products were so cheap. A person told him that he used to buy the food necessary for a year for himself, his wife, and a servant for a silver dinar. He gives the price of various things, a milch cow three dinars of silver, a piece of fine cotton of excellent quality and thirty cubits long two dinars, a handsome young girl one gold dinar.

I have omitted a few common place comments of the author at the end of this chapter, they are without any interest whatsoever.

2) Cf. what Caesar Frederick (Hakluyt, *Principal Navigations*, V, 409, says of Orissa in his time. Also Linchoten, I, 94—96 (Hakluyt Soc. edit.), whose remarks on Bengal agree closely with those of Iba Batuta.

3) Prior to the Yuan dynasty we only hear of Ku-lin (故臨), see Hirth and Hookhill, *op. sup. cit.*, 12, n. 5, 88, 91, n. 17. Chao Ju-kua says it was a dependency of the Nan-p'i or Naira of Malabar. With the Mongol period begins the change to Hsiao

people are indolent in their work of the tillage of the soil. They count yearly (to eke out their subsistence) on the contribution made them by the Wu-tieh (Orissa) rice trade. Sometimes through stress of weather (these Wu-tieh boats? or a boat?) arrive late after the departure of the horse ships (from Kan-mai-li, the Comoro Islands) and without a full cargo; the wind blows (too) violently (for them to proceed). Other times the wind is contrary, and it (or they) cannot reach the Sea of Lambri (喃哩洋) and escape the danger from the ragged rocks in (the bay of) Kao-lang-fu (高浪阜中鹵股石之危, Colombo), so they pass the winter in this place, remaining until the summer of the following year; when in the eighth or ninth moon ships come again (from Kan-mai-li?), then they go on (in their company so as to escape the pirates which infested the coast?) to Ku-li-fo (Calicut) to trade.

As to the usages and customs, the clothing of both sexes is like that of Ku-li-fo (Calicut). They have village rulers (村主), but no chieftains (or chief ruler).

The native products are pepper, cocoa-nuts, betel-nuts, and Liu fish (溜魚 i. e., *cobily mash*, from the Maldivé Islands).

Kü-nan or "Little Quilon". It seems to me very likely that Hsiao Kü-nan (Hsiao Ko-lan of Ma Huan and Fei Hsin) is Kayan Kalam or Kain Colan, the Singayli of *Frizer Jordanus*, as suggested by Yale (Jordanus' *Mirabilia*, Hakluyt Soc. edit.), XIV, which in turn is the Sêng-ki-li (僧急里) of *Tuan shih* (Q10. See *Young Pao*, 1914, p. 441, n. 1).

Ibn Batuta, IV, 99, 103, speaks of the Chinese merchants resident at Kalam, and notes that the merchants there are called Sall.

Duarte Barbosa (157) says, "Having passed this place (i. e., Porca between Cochín and Coulam) the kingdom of Coulam commences, and the first town is called Caymolcan in which dwell many Gentiles, Moors and Indian Christians. . . . There is much pepper in this place, of which there is much exported. Farther on along the same coast towards the south is a great city and good sea-port, which is named Coulam, in which dwell many Moors and Gentiles, and Christians. They are great merchants and very rich, and own many ships with which they trade to Chulmendei (Coromandel), the Island of Ceylon, Bengal, Malacca, Samatara, and Pegu: these do not trade with Cambay."

The early Portuguese speak of Cacconleo and Coulan; see Dalboquerque's *Commentaries* (Hakluyt Soc. edit.), II, 49.

The goods used (by the Chinese) in trading there are gold, iron, blue and white porcelain-ware, Pa-tan cotton cloth (八丹布, Jurfattan cloth?), satins of various colours, iron-ware and the like.

62 (2). *Ying yai shêng lan*. 11. Hsiao Ko-lan (小葛蘭).

To the east it is adjacent to high mountains. On all other sides it is along the sea-coast.

The king is a So-li man (from Coromandel). They revere the Buddha and show great reverence to elephants and cows.

In their marriage and funeral customs they are as in Hsi-lan (Ceylon). Journeying by sea in a north-westerly direction from Pieh-na-li (Belligam) in the kingdom of Hsi-lan (Ceylon) for six days and nights one finally reaches (this country).

In their daily diet they use much butter which they mix with rice.

In trading they use gold coins weighing two mace.

It is but a small kingdom as to its area¹.

62 (3). *Hsing ch'a shêng lan*. 29. Hsiao Ko-lan (小葛蘭).

It is near (連) the land of Chih-tu (赤土地, or the "Dark red country") and conterminous with Ko-chih (Cochin).² They hold their markets in the middle of the day.

It is (a principal) port (馬頭) of all the lands of the Western Ocean.

This country uses as a medium of exchange a large gold coin

1) *Ming shih*, 326, 4, says that Cheng Ho visited this locality frequently.

2) Chih-tu was at one time a portion of Fu-nan (Siam), but it seems quite impossible that Fei Hsin can have had it in mind here. He must have used the name Chih-tu to transcribe the name of some locality or district near Hsiao Ko-lan. The author of the *Hai yang chiao lung tien lu* (2, 1" (Hsiao Ko-lan) and 2, 6" (Ku-li)) tried to explain this passage of Fei Hsin's work, but admitted that he could not.

called *tang-ka* (儻伽, *tangka*) which weighs eight candareens, and a small gold coin called *pa-nan* (吧喃, *fanam*), forty of which are equal to one large gold coin.¹⁾

The soil is barren, the crops poor; they depend yearly for food on the rice brought from Pêng-ko-la (Bengal).

The climate is constantly hot. In their customs they are rather honest. Most of the men and women are Moslems and Nan-p'i (喃毗, Nairs).

The natural products are pepper equal to that of Hsia-li (下里, Hily), dry betel-nuts, *po-lo-mi* (jack-fruit), and coloured cotton stuffs. The sapan-wood, frankincense, pearls, coral, butter, cutch, jasmine flowers (found there) all come from other localities.

The goods used (in trading here) are cloves, cardamoms, coloured satins, musk, gold, silver, copper, iron-ware, iron wire, black tassels.

63 (1). *Hsing-ch'ia shing lan*. 28. TA KO-LAN (大葛蘭). Quilon.

This country is near the Tu-lan rocks (都蘭礁).²⁾ Its soil is black loam naturally suitable for raising grain, but the natives

1) It would seem that there must be an error in the text here, and that fourteen (not forty) *fanam* were equal to one *tangka*.

2) This chapter contains a number of textual errors. Instead of Tu-lan rocks (礁) it has 礁. Instead of Kao-lang fu it has Kao-t'ui-fu (高頭埠), and instead of *ku-jin* stones (鹵股石) it has 羅股石. It has also Sea of Wu-li when it should read Sea of Nan-wu-li.

Pei Hsia is the only writer of this period to mention a Ta Ko-lan and not knowing anything about it apparently he transposes the information given by Wang Ta-yuan for Hsiao Kū-nan (Cain Colan) to this place, while he gives for Hsiao Ko-lan various items which seem to have been taken from Wang's and Ma Huan's books where they applied to sundry localities along the Malabar coast.

Ming shih, 326, 4, quotes practically from Pei Hsia: "There is Ta Ko-lan. The waves and billows dash against it that ships cannot anchor and traders visit it seldom. The soil is black loam suitable for wheat, but the people are too lazy to cultivate it and count on the rice from Wu-tieh (烏爹, Orissa) to get enough to supply their yearly wants. The customs and products closely resemble those of Hsiao Ko-lan."

are lazy about cultivation and count every year on the rice from Wu-tieh (Orissa) for their food.

Trading junks when prevented by the wind and unable to arrive in time (i. e., before the change of the monsoon), and when the billows are dashing on the beach cannot take on full cargoes (here), not being able to find a good anchorage. Or, if they pass the Sea of (Nan)-wu-li (Lambri), then they encounter grave dangers, for there are the deep waters of Kao-lang-fu (Colombo) and the dangers from its jagged rocks.

In their customs they are honest. Men and women wear turbans and a long shift of a single piece of cotton stuff, wrapping a piece of coloured stuff around their middles.

The products of the country are pepper, cocoa-nuts, Liu fish, betel-nuts. The goods used in trading are gold coins, blue and white porcelain-ware, cotton stuffs, and satins.

64 (1). *Ying yai shêng lan*. 12. Ko-chin (柯枝). Cochin.

To the east it adjoins high mountains; on all other sides it is along the sea-coast. One reaches it after sailing from the sea of (Hsiao) Ko-lan one day and night to the north-west of (that) place.

The king of this country is also a So-li man. He wears a turban of yellowish cotton cloth. On the upper part of his body he wears no clothes, on the lower part he has an embroidered piece of stuff held by a piece of embroidered stuff wrapped around him and called a *ya-yao* (壓腰) or "waist band."

The high officers and people dress about the same as the king. Their dwellings are made of the wood of the cocoa-nut tree, and are covered with its leaves pinned together like tiles, forming, as it were, a thatching; besides this each home builds a storehouse for its property to escape the danger of fire and thieves.

There are five ranks of people. The class of the Nan-p'i (南毗輩, Nairs)¹⁾ are equal with the king. They shave their heads and let a thread hang down to below the knee (?懸脛以綿). This is the most honourable class. The Musulmans are the second class. The *ya-t'ung* (牙輪 brokers?) called Ko-ling (革令, Kling) form the fourth class. Finally, the lowest people, called Mu-kua (木瓜, Mukuva), form the fifth class. The Mu-kua occupy themselves with fishing and collecting fire-wood. Usage forbids them to wear long garments. They live on the sea-shore in huts scarcely three feet high and are punished if they disobey this. Their upper garment does not reach lower than the knee. Should one of them meet on the road a Nan-p'i or a Chih-ti, he prostrates himself, and waits until they have passed by before getting up.

The king reveres the Buddha and shows deep respect to elephants and cows. He has built a temple (寺) in which the image of the god (*lit.*, Buddha) is of gold, and the dais has knobs of blue stone. It is surrounded by a moat (溝水), and on the side he has sunk a well. Every day at dawn to the sound of bells they draw water from the spring and pour it over the head of the god a number of times. This is the only ceremony.

There are Cho-ki (濁肌, yogis) who are something like the Buddhist *yu-p'o-i* (優婆夷) or lay brethren, and who have wives. From the time of their birth their hair is not cut nor combed, but they rub on it butter and plait it in some ten braids and let it hang down behind. They smear their bodies with ashes of cowdung,

1) Cf. Geo. Phillips, *JRAs*, 1896, 341-342. The text of Ma Huan reads here and in other passages where this name occurs Nan-k'un (南毘), and the *Hai yang chuan kang tien* in repeating this reading, but Pei Hsin gives the true reading Nan-p'i (南毗), concerning which there can be no doubt; I have corrected Ma Huan's text accordingly. On the coast of Malabar, see Duarte Barbosa, *op. cit.*, 121 et seq., 140.

The eunuch Yin Ching was sent on a mission to Cochin in 1403. In 1408 Ching Ho was sent there for the first time. In 1411 its prince Ko-i-li (可亦里) sent a mission to Court, and in 1412 Ching Ho was sent there again, and once more in 1430.

and wear no clothing, but a rattan holds around their waists a whitish-green stuff (? or white calico? 白綠四手). They carry in their hand a big conch shell which they constantly blow as they go about. Their wives, who cover their nakedness with only a small piece of cotton stuff, follow their husbands about from house to house seeking money and rice.¹⁾

The climate is (constantly) as hot as summer, there is neither frost nor snow. In the spring when it rains they repair their cottages and get ready for the summer, when the increasing down-pours turn the bazaars and streets into rivers, and they cannot move out of their dwellings. In the seventh moon it begins to clear, and after the middle of the eighth moon it is clear until winter and continues so until the third moon (of the succeeding year) when rain begins again. So the saying goes that for half the year it rains and for half the year it is clear.

In trading they use gold and silver coins. The gold coin, which is nine-tenths fine (九成色), is called *fa-nan* (法南, *fanam*); it is reckoned (in weight) one candareen, one *li*. The silver coin is somewhat like a shell spot (? 僅如螺髻), it is called *ta-erh*²⁾ (答兒, *tar*), and is reckoned at four *li*, and fifteen are equivalent to one gold coin.

Their marriage and funeral customs vary with the different classes.

The native products are pepper which is often grown in vegetable gardens. Four hundred catties are worth a gold coin. One hundred silver (coins) is the price of a pearl weighing five taels. They estimate (pearls?) by candareens (? 以分論).

1) On the *yoguis* of Malabar, cf. Ibn Batuta, IV, 35, 38—39, also Nicolo di Conti (Ramasis, *Delle Navigazioni*, I, 342, A), and Duarte Barbosa, 99.

2) Ibn Batuta, IV, 174, says that in Ceylon a hundred *fanam* were worth six gold *djaur*. In the XVth century in Vijayanagar a *tar* was the sixth of a *fanam*. The value of these coins varied in different localities. See Yale and Burnell, *Glossary*, s. v., *Pandem* and *Tara*, *Terc.* Also François Pyrard, *op. sup. cit.*, I, 344, 412.

They have rice, hemp, beans, and millet, both the glutinous (黍, *shu*) and the panicle (稷, *chi*) varieties, but no wheat.

They have elephants, horses, cattle, sheep, dogs, cats, and fowls, but neither mules (驢馬) nor geese.¹⁾

64 (2). *Hsing sh'a shing lan*. 30. Ko-chin (柯枝).

This locality is on a headland facing Hai-lan (Ceylon). To the interior it confines on Ku-li (Calicut). The climate is constantly hot, the soil is poor, the crops sparse. The villages are on the sea-shore. The usages and customs are honest.

Men and women do their hair in a knot and wear a short shirt and a piece of cotton stuff wrapper around them.

There is a caste of people called Ma-kua (Mukva); they have no dwellings but live in caves, or nests in the trees. They make their living by fishing in the sea. Both sexes go with the body naked and with a girdle of leaves or grass hanging before and behind. If one of them meets someone, he must crouch down and hide himself by the way-side, where he must wait until he has passed by.

The natural product is a great abundance of pepper. Wealthy people put up board godowns (板倉) in which to store it. In their trading transactions they use a small gold coin called *panan* (吧喃, *fanam*).

The goods used in trading are coloured satins, white silk, blue and white porcelain-ware, gold and silver.

Its ruler in grateful recognition of the imperial bounty constantly sends presents to our Court.

1) Ibn Batuta does not mention Cochin, nor does Marco Polo. Nicolo di Conti (*op. cit.*, I, 341, F.) says that in three days from Columbo he reached Cochin, which was five miles in circumference and situated at the mouth of the river Colchan, from which it took its name.

65 (1). *Tao i chih li*. 64. HsIA-LI (下里). Hili.

This country is between Hsiao Kū-nan (Kain Colan) and Ku-li-fo (Calicut), it is also known (to the Chinese) as the Hsiao Chiang-k'ou (小港口), or "Little Harbour". The hill is bare and flat, it extends over several thousand (*sic*) *li*.¹⁾

The dwellings of the people are scattered about close together on every side with a sufficiency of land to supply the wants of each family, though the soil is far from good for tilling.

The climate is hot, the usages of the people pure. They are hot-headed, and wherever they go, they carry about with them their bows and arrows. Men and women cut their hair and wrap around them *Liu pu* (溜布, i. e., cotton cloth from the Maldivé Islands).

The natural products are pepper, superior to that of any other foreign port. It is impossible to state the number of plants which cover the hills (of Hsiao-li). It is a creeper which grows like a wistaria vine, and which blooms in winter and bears fruit in summer. The people gather it and dry it in the sun to remove its pungent flavour. The pepper gatherers for the most part do not mind its flavour, but if they do, they get relief by using a decoction of *Ch'uan-hsiung* (川芎). The pepper of all other foreign parts is all the surplus product of this country (他番之有胡椒者皆此國流波之餘也)²⁾.

1) On Geo. Phillips, XVth century Chinese map there is a Hsiao-li (歇立) which he identifies with the Hili of Marco Polo, the Ras Haili of the Arab writers. Ibn Batuta, IV, 81, says that Ras Haili was much frequented by ships from China, as were also Cochla and Calicut.

2) See Birtk and Rockhill, *op. cit.*, 83, 222, *Ch'uan-hsiung* or *Sin-ch'uan hsiung* is a species of *Levisticum*. See Bretschneider, *Materia medica*, 100—102.

66 (1). *Tho i chih hio*. 83. KU-LI-FO (古里佛). Calicut.

Ku-li-fo is the most important of all the maritime centers of trade. It is close to Hsi-lan (Ceylon) and is the principal port of the Western Ocean. The land is flat and the soil poor, though grain can be grown.

Each year they depend on the shipping from Wu-tieh (Orissa, for a sufficiency of grain). They cede the path to each other; they will not pick up things on the highways; their customs approach those of antiquity (in honesty). Should anyone steal an ox, the chief verifies the number of oxen (西以牛頭爲準)¹⁾, and (or) the rightful owner seizes all the property of the offender, and he is put to death.

The seat of government is far off in the hills, but the place where trading is carried on is on the sea-shore.

The native products include pepper very like that of Hsia-li (Hili). The people have public godowns in which they store it. Each *po-ho* (播荷, *bahar*) is of 375 catties weight. The customs dues are two tenths. There are also kajang leaves, *p'i sang* cloth (皮桑布)²⁾, rose-water, jack-fruit, and catechu. The coral, pearls, and frankincense (obtained here), all come from Kan-mai-li and Fo-lang (玕理[里?]佛郎, Comoro Islands and the countries of the Franks?)³⁾. The goods exported are the same as from Hsiao Kō-nan (Kain-Colan).

1) The translation of this phrase as here given is that supplied me by a Chinese scholar of Shanghai. It does not quite satisfy me, especially as we have in the *T'ing yai ching lan* (see 56 (1)): "He who kills a cow is punished with death, or he may redeem himself with a cow's head of gold" (或贖以牛頭金).

2) It seems likely that *p'i-sang pu* is an error for *sang p'i pu* (桑皮布) or *shih* (紙) meaning "mulberry bark cloth" or "paper".

3) In another chapter (84 (1)) our author says that Kan-mai-li (which I suggest is the Comoro islands) was not far from Fo-lang and that most of the products for sale in Kan-mai-li came from there. Fo-lang, it would seem, must be understood here as applying to the countries along the eastern coasts of the Mediterranean Sea.

They have fine horses which come from the extreme West, and which are brought here by the shipload. Each horse will fetch from an hundred to a thousand pieces of gold, even going as high as four thousand, and the foreign people who fetch them thither would think the market a very bad one if they did not.

66 (2). *Ying yai shêng lan*. 13. Ku-li (古里).

It is a great kingdom of the Western Ocean. To the west is the sea-coast. To the south it adjoins the kingdom of Ko-chih (Cochin). To the north it adjoins the kingdom of Hên-nu-erh (猥如兒, Cananore?)¹). The sea is near, the mountains far away. Over seven hundred *li* to the east (west?) it adjoins K'an-pa-i (坎巴夷, Cambay?)²). Journeying by sea from Ko-chih (Cochin) it can be reached in three days. It is distant from China an hundred thousand odd *li*.

In the fifth year of Yung-lo (A.D. 1407) the eunuch Chêng Ho and others conveyed to the king letters patent conferring on him (the title of vassal king) and different gifts to his highest officers (將領), and to all of them official hats, girdles, and carved stones.

The king (i. e., the Samorin) reveres the Buddha and shows respect to elephants and cows. The people have five classes: the Musulmans, the Nan-p'i (Nairs), the Chih-ti (Chittis), the Ko-ling (Klings), and the Mu-kua (Mukava).

The king is a Nan-p'i (Nair). He does not eat beef. His highest officers are Moslems, they do not eat pork. Formerly the

1) It would seem from the position given it in the text that Hên-nu-erh is Cananore or some locality near it to the north of Calicut.

2) Geo. Phillips has translated this chapter in *JRAS*, 1896, 345, 348. He suggests that K'an-pa-i is Koyampalli, a former name of Coimbatore, in the Madras Presidency, a great centre of woaring and cotton manufacture. Cambay seems to me much more probable. On Calicut, cf. Duarte Barbosa, *op. cit.*, 194 et seq., and François Pyrard, *op. cit.*, I, 401, et seq.

king made a pact with the Moslems, mutually forbidding to eat (beef and pork).

There is an image of the Buddha cast in copper, it is called the Na-erh Buddha (納兒佛, "the Buddha of the Nairs"?). The temple is covered with copper tiles.¹) Beside the dais (of the image) a well has been dug, out of which they draw water and wash the image, and worship it. They take cow-dung mixed with water to smear the ground and the walls (of the temple).

Both officials and people when they get up in the morning smear the ground (of their houses) with cow-dung, and with ashes of cow-dung, carried on their bodies in a bag, every morning they mix some with water and rub it on their foreheads and legs; this is their way of "showing reverence to the Buddha".

There is a tradition that there was formerly a holy man called Mou-so (某些, Musa, Moses), who spread religion and converted men. All the people submitted to Mou-so. When he went away, he sent his younger brother called Sa-mo-li (撒沒黎, al-Sāmeri) to rule them. This younger brother was negligent (or remiss, 縱誕) and cast a golden calf (鑄金犢) and commanded the people (以諭國人) saying: "This is your Holy Lord, he who worships him shall have his prayers answered". And there was no one who did not follow this command. Now the dung of the cow (golden calf) was gold. So the people made money and continued to put implicit faith in it (i. e., the golden calf). When Mou-so came back, he was angered with his brother for leading astray and deceiving (the people), so he destroyed the (golden) cow. At this the younger brother was enraged, so getting on an elephant he vanished, but the people of the country live in hope of his coming back, and they consequently revere elephants and cows.²)

1) Pyrard, I, 414, refers to "the polished copper tiles of this Pagoda".

2) On the Moslem tradition of Musa, al-Sāmeri and the golden calf, see Sale, *The*

All the affairs of the country are conducted by two high officers (將領) who are, at present, Musulmans.

The people of the country follow the Moslim faith. There are some twenty to thirty mosques. Every seventh day there is worship when they all bathe and rest from their labours, and till noon men and women pray incessantly to Heaven in the Mosques, after which they resume their various pursuits.

In their usages they like sincerity. All the merchandize brought here by Chinese junks is under the control of the two high officers who send brokers (駙僧) to come to an understanding as to prices, which are not subsequently changed. And their mode of counting is to rely solely on the bending of the fingers, and they do not make an error of a fraction (伸分毫不謬).¹⁾

In trading they use six-tenths fine gold coins called *pe-nan* (吧南, *fanam*), weighing two candareens and with writing on

Koran (edit. 1850), *Sura* XX. "God said (to Moses), we have already made a trial of thy people, since thy departure; and al-Sāmeri hath seduced them to idolatry. Wherefore Moses returned unto his people in great wrath, and exceedingly afflicted. And he said: O my people, had not your Lord promised you a most excellent promise? . . . They answered, We have not failed in what we promised thee of our own authority; but we were made to carry in several loads of gold and silver, of the ornaments of the people, and we cast them into the fire; and in like manner al-Sāmeri also cast in what he had collected, and he produced unto them a corporeal calf, which lowed. And al-Sāmeri and his companions said: This is your god, and the god of Moses; but he hath forgotten him, and is gone to seek some other. . . ." This Chinese version which makes al-Sāmeri brother of Moses agrees with the opinion of some Arab writers that he was Aaron himself. See Sale, *op. cit.*, §60, n. 6.

The remarks about the reverence for elephants noted by the Chinese refer, of course to the worship of Ganesha, the elephant-headed god.

1) Duarte Barbosa, 145, says of the Chittis that "they are great clerks and accountants, and make out their accounts on their fingers. Cf. what the *Tao i chih Ho* says of the accountants of P'o-ni (48 (I)). *Hai yung chiao tung tien lu*, 3, 5* (Ku-li), says, "The accountants are called *mi-na* (米納). Their sole mode of counting is by the use of the joints of their ten fingers. When a bargain is once struck, they take each other's hand and promise (to keep it) without hesitation" (無悔). Cf. Caesar Frederick (Hakluyt, *Principal Navigations*, V), 375—376, on the subject of the brokers.

both sides, also little silver coins called *ta-erh* (搭兒, *tara*), weighing three *li*. Their standard of weight is called *fa-li* (法利, *fraxala*), and twenty ounces make a catty, equivalent to one catty, nine mace, six candareens Chinese. Their *shêng*, or pint, measure is called *tang-ka-li* (党受黎), and is equivalent to one pint, six *ko* (合) Chinese.¹⁾

Their musical instrument is made of the bottle-gourd (葫蘆) with strings made of copper wire. In singing the music (from the) harmonious tinkling of pieces of metal (歌樂自和協鏗鏘可聽) can be heard (in the accompaniment).

Their marriage and funeral ceremonies differ according to castes (類).

When the king gets old, he is not succeeded by his son, but by a son of his sister. If there is no son by younger sisters, then he is succeeded by his younger brother, and if there is no younger brother, then the succession goes to whoever is the most deserving; so it has been in all cases from of old to the present time.

They do not use whipping as a punishment. For light offenses they cut off the hands and feet, for serious ones they impose a fine in gold. If the crime involves capital punishment, then the whole family and its relatives are exterminated. When a person has committed a crime, they bind him, and to ascertain whether he is guilty or not, they stick his fingers (or, "a finger") into boiling oil for a considerable time. Three days afterward they examine it,

1) *Hai yang chiao lung tien lu*, 3, 4^b (Ku-li), says: "The standard weight is the *fa-la-shih* (法刺失), the standard measure called *tang-ka-li* is made of copper, and is six-tenths of a Chinese pint. In weighing pepper 250 catties make a *po-ko* (bahar) worth 200 gold coins. In weighing aromatic goods 200 catties make a *po-ko*." The *fa-li* or *fa-la-shih* is the *farazola* (*farsetola*) of Barboza (224) which he says was equal to 22 pounds Portuguese, and twenty of which made a *ladar*. See Yule and Burnell, *Glossary*, s. v. *Fraxala*.

The term *tang-ka-li* must be explained by a more competent person than I, having failed to find any explanation of it in the books accessible to me. See however Phillips, *op. sup. cit.*, 347.

and if it is cooked, he suffers for his misdeed, but if it is whole, he escapes. Those who escape are honoured by the *Chiang-ling* (viziers) with drums and music, and go back to their homes where their relatives all congratulate them and drink wine.¹⁾

There is *hai-yang pu* (西洋布) or "Western Sea cotton cloth"; it is called *ch'ê-li* (摺黎 Persian, *shâl*). It is a product which comes from the adjoining country of K'an-pa-i (Cambay). Each piece is four feet five inches wide and twenty-five feet long, and is worth eight gold pieces. There is (a variety called) "flowered kerchiefs with stripes of coloured silk" (色絲間花帨), it is five feet broad and twelve to thirteen feet long, and worth a hundred silver coins.²⁾

The native products include pepper which is raised in gardens. In the tenth moon it is ripe. //

The wealthy people plant great numbers of cocoa-nut trees, some having from a thousand to two or three thousand. The young trees have a juice from which spirits can be fermented. The old trees can furnish syrup (油糖), or (they can be made into) boards. The shell (of the nut) can be made into bowls. By reducing the branches to ashes it can be used in the inlaying of gold (可廂 [= 鑲?] 金). The dry branches can be used as roofing, and the leaves to cover rooms.

As to vegetables they have ginger, mustard, turnips, coriander (胡荽), onions, garlic, bottle-gourds, egg-plants, melons (瓜), and gourds (東瓜). The whole year round there are little melons

1) Cf. Duarte Barbosa, 117, 119—120, and Niccolò di Conti (Ramusio, *Navigazioni* I), 344.

2) *Hai-yang pu*, called in various passages of the *Tao i ch'î ho*, *Hai-yang sù pu* or simply *sù pu*. See *supra*, 12 (I) n. 2. *Ch'ê-li*, in Persian *shâl*, our shawl, is the principal article of women's dress in India. As to the "flowered kerchiefs", *Hai-yang chao lung tien la*, 3, 5* (Ka-li), says of them that they are called *Hai-yang shen-pa* (西洋手巾) and that they were worth a hundred gold coins.

like a finger and over an inch long and of most excellent flavour¹).

As to fruits they have bananas, jack-fruit, the *mu-pieh-tzu* (木鱉子) tree is over ten feet high with green *jang* (綠囊) like persimmons (?)².

They have rice, but no wheat. They have fowls and ducks, but no geese. Their goats (羊) are as tall as donkeys and of dark colour. Their water-buffalo are small-sized. Their domestic cattle do not weigh over three to four hundred catties; their flesh is not eaten, but they use milk and butter (乳酥) which they are continually drinking and eating. When a cow dies, they bury it.

They have peacocks, crows, kites, egrets, but no other birds³).

The tribute (to the Court of China) consists in rich girdles with gold thread, gold thread (as fine) as hair, clusters of jewels (結花綴八寶), and pearls⁴).

1) *Hai yang chao kang tien lu*, loc. sup. cit., says: "The perennial cucumber (四時冬瓜) is in shape like a small finger, two inches long. Its taste is like that of a green cucumber (青瓜). The variety which has a dark red (or brown 紫) skin and large leaves, is called "brown skinned cucumber" (紫皮瓜).

2) The text seems to be corrupt, it reads 樹高十餘丈綠囊如柿三四十. I have ventured to correct it on the strength of what the *Hai yang chao kang tien lu* (loc. sup. cit.) says: "There is a tree over ten feet high, its fruit is like a green persimmon with some tens of seed inside (結如綠柿內子數十), they fall of themselves when ripe. It is called the *mu-pieh-tzu* (*mamordica Cochinchinensis*, Spreng.)."

3) *Hai yang chao kang tien lu*, (loc. sup. cit.), says: "There are bats like kites which rest hanging suspended from the trees. There are kites, crows, swallows, herons (鷺) and many peacocks."

4) Ch'ang Ho's first mission to Calicut was in 1504, when he gave the king a patent of investiture and a silver seal, and set up a stone tablet recording the event. The same year, and again in 1407, the king sent a mission to China. *Hai yang chao kang tien lu*, 3, 5-6.

66 (3). *Hsing ch'a shêng lan*. 31. Ku-li (古里).

It can be reached from Hsi-lau (Ceylon) with a favourable wind in ten days. It is an important islet, and together with adjacent Sêng-kia-(la) (僧迦密邇, Ceylon), is the trade centre for the countries of the Western Ocean. The place (山) is extensive and the soil barren, but wheat is in quite sufficient quantity¹).

In their customs they are very honest. Those walking along make way for each other; they will not pick up anything on the road. They have not the bastinado as a punishment, they draw a circle with lime on the ground which (the culprit) is forbidden (to pass beyond)²).

Their ruler and people live far off in the hills. The place for all the business is on the sea-coast.

The men wear a long shirt, around their heads they wrap white cotton stuff. The women wear a short shirt and wrap around them coloured cloth. Strings of gold pendants hang from their ears. On the tops of their heads they wear pearls, jewels, and coral, forming a fringe; on their wrists and ankles are gold and silver bracelets, on their fingers and toes are gold and silver rings set with precious stones. They do up their hair in a knot behind the head. Their faces are white, their hair is black.

There is a caste among them which goes naked; they are called Mu-kua, the same as in Ko-chih (Cochin).

1) This phrase is a quotation from *Tao i chih liu*, *supra* 65 (1).

When Ihu Bateta was in Calicut (in 1342), he found thirteen Chinese junks in the port. See *Voyages*, IV, 90.

2) This is taken from *Tao i chih liu* (66) where it is given in the chapter on Juruttan (*infra*, 70 (1)). Marco Polo (II, 313) speaking of the customs of the Province of Maabar, says that if a creditor would draw a circle round his debtor, the latter may not pass the circle until he has satisfied the claim or given security for its discharge. If he in any other case presume to pass the circle, he is punished with death as a transgressor against right and justice."

The country produces pepper equal to that of Hsia-li (Hills). They have godowns to store it while waiting to be sold. They have oil of roses, *po-lo-mi* (jack-fruit), catch, flowered chintzes, coral, pearls, frankincense, patchuk, amber, but all of them are imported there from other countries. The fine horses found there come from the West. They are worth hundreds or thousands of gold coins.

The goods used in trading (by the Chinese) are gold, silver, coloured astins, blue and white porcelain, beads, musk, quicksilver, and camphor.

The ruler, touched by the imperial bounty, constantly sends missions to Court with memorials on leaves of gold, and he presents articles of tribute.¹)

67 (1), *Tao i chih li*. 80. HSŪ-WÊN-NA (須文那). Mangalore (?).

This country adjoins Pan-ki-ni-na (班支尼那)¹). The place (山) is in shape like a calabash. The people live in contentment. The soil is poor and grain scarce. The climate is equable. In their customs they are simple. Men and women have a head-cover tied on with silk (蓬頭繫絲).

In the residence of the chief there are stone cranes over seven feet high; they have white bodies and red crests, and look as if they were alive. The people look upon them as fairy cranes (神鶴). When, between the fourth and fifth moons, they hear their night cry, then (they know) that the year will have an abundant harvest, and those who are ill divine by it, like an answer to a question.

1) *Ming shih*, 326, 1^b—2, says that the eunuch Yin Ching was sent there in 1403, and in subsequent years Cheng Ho visited it frequently. The last mission from Ku-li to the Ming is placed in 1436.

2) See *T'oung Pao*, 1914, p. 425. It appears to me likely that Pan-ki-ni-na is the Pandanora of the Arabs. According to Ibn Batuta, IV, 80, Mangalore was the centre of pepper culture.

The people are not clever (善). They boil sea-water to make salt.

The native products include *ssu pu* (shawls), pepper like that of Hsi-ling (Ceram) and Tan-mo, *hai-erh-ah'a* (孩兒茶, catch), which is also called "Wu-tieh clay" (烏爹土), and *hsü-shih* (胥實, catch). It is a mistake to say that this (*hsü*)-*shih* is the sweat of betel-nuts¹).

The goods used in trading are fine five-coloured satins, blue satin, cardamoms, water jars of various sizes, sapan-wood, and such like things.

68 (1). *Tao i chih liö*. 60. PAN-TA-LI (班達里).

The country is near the kingdom of Po-ssü of Kuei-k'ü (? 鬼屈波思)²). The hill (on which Pan-ta-li stands) is of steep piled-up rocks. The arable soil is poor, the crops sparse. The climate is rather hot, and destructive rains do great damage.

The customs are strange. There are evil spirits who come beside persons' houses in the night time and wail like human beings, keeping this up until the fifth watch, when the wailing stops. The succeeding day the chief must send (必遣) out men (or a man) on horseback, beating a drum to drive it away, and (if) the man does not see any tracks, it is a ghost (影, a semblance),

1) On *hai-erh-ah'a* or catechu, see Porter Smith, *Materia medica*, 55. The substance called *hsü-shih* must be the *Kassia* of Persia or "black catechu", the product of the areca palm or betel-nut of which Smith speaks.

2) It seems just possible that Pan-ta-li may be an error for Pan-ta-li-na (那), and that Pandaraina is referred to, this notwithstanding the fact that in the preceding chapter (68, 1) I have ventured to suggest that Pan-ki-ni-na also represents that name. At all events no other explanation of Pan-ta-li suggests itself to me, nor do I find anything in the notes concerning it given by our author which can help to solve the problem. "Kingdom of Po-ssü of Kuei-k'ü" is quite incomprehensible.

The author of the *Tao i chih liö kuang t'ung*, 2, 5, makes out Pan-ta-li "the French possession in S. E. India called Ti-chih-li (地治理, Pondichery?).

and they afterwards build a temple to protect them (from the spirit), and they cover it with flat stones. If they did not so, (they think that) men and beasts would suffer from illness, and the land would of a certainty be visited by calamities.

Both men and women do up their hair in a chignon and wrap around them a piece of Wu-lun cotton cloth. They use neither needles nor thread, nor do they even spin thread. They boil seawater to make salt.

The natural products are *lien-tzu* (甸子), *ya-hu* (precious stones), *tou-lo-mien* cotton stuffs, raw cotton, and blue *ming* stones (青蒙石).

The goods used (by the Chinese) in trading are coloured satins, blue and white china-ware, iron-ware, coloured beads, and such like articles.

69 (1). *Tao i chih li*. 66. SHA-LI-PA-TAN (沙里八丹)¹.

Jurfattan.

This country is beyond (俊) Ku-li-fo (Calicut). The soil is fertile and level, (but) the cultivated fields few. The usages of the people are pleasing (美). As to the climate it is rather hot. Men

1) Wherever this name occurs in the *Tao i chih li*, the last character is written *shou* (舟), as also in the name of another place, Ta-pa-tan (大八丹). The correction to *tan* is justified, however, by reference to Phillips' old Chinese map on which we find Sha-li-pa-tan (沙里八丹), which Phillips identifies with Manipatam. I am rather inclined to see in it the Jurfattan of the Arabs or Cananore, while Ta-pa-tan may be the Arab writers' Buifattan a little south of it. See also *supra*, 59 (1), note.

The cotton fabric called by our author *Pa-tan pa* seems to have been largely exported; he refers to it as he uses in various places in the Eastern Archipelago.

Hai guang chiao kang tiao 1a, 42, 8*, says that Sha-li-pa-tan was about ten days sailing from Lambri in Sumatra.

The A-po-pa-tan (阿撥把丹) mentioned in *Ming shih* (326, 10) as a small state near Quilon, seems to me to be another form of transcription of the name Jurfattan.

and women wrap cotton cloth around them and wear a turban. They are sea-farers, and this is the principal port for the pearl trade.

When anyone of the people commits a crime, they draw a circle with lime on the ground and cause him to stand inside it, not allowing him to move. This is their most severe form of punishment.

The natural products are Pa-tan cotton cloth (八丹布) and pearls, all of which latter are brought here from the Ti-san Chiang (Gulf of Manár, Ceylon?), their place of production, and where the pearl collectorate office gathers them all in and brings them over in small boats to his place (i. e., Jurfattan), where the rich (traders) use gold and silver to force down the prices (?富者用金銀以低價場之). If a boat should come (from Ti-san-chiang) to try to sell (directly) to the Chinese, its profits will be insignificant indeed (i. e., the Jurfattan pearl traders will undersell them with the Chinese?).

70 (1). *Tao i chih tio*. 73. HUA-LO (華羅). Honore(?)¹).

(The anchorage) is bounded by a grove of cocoa-nut trees. The houses are made in layers of black stones. The soil is poor and stony, but rice can be grown. The climate is constantly hot, it is in autumn and winter that vegetation grows and becomes luxuriant. Their customs are curious; each one among them builds himself a stone pavilion on the four sides of which is the image of a cow, either in clay or cut in stone. Morning and evening each one chants prayers and worships them as if they were human Buddhas. They also offer them sweet-smelling flowers and lighted lamps.

Wherever these people sit, wherever they put up an altar, they

1) The name Hwa-lo does not occur in any other passage of this work nor in any other book of the period, I have suggested that it may be Honore, at all events from what the text says of the customs of this place and the similarity of the customs to this of the Nairs, we may be sure it was on the Malabar coast.

smear the ground and the walls of the room with cow-dung mixed with mud so as to purify it.

Neighbors, unless they are of the same caste, may not enter each other's houses.

Men and women are black. They have no ruler, but are governed by the most worthy. Their speech is incoherent (語言謬誤). They smear their foreheads with sandal-wood and cow-dung, and wrap around their heads muslin cloth.

They wear a long shirt, and differ but slightly from the people of Nan-p'i (the Nairs) of the present day, while greatly resembling them.

71 (1). *Tao i chih ho*, 32. P'ENG-KIA-LO (朋家羅). Bacanor (?)¹⁾.

It is west of the country of Ku-lin (故臨); the group is composed of a high island and three islets (山而三島). On the middle island is the abode of Sang-hsiang Fo (桑香佛所居) are real treasures, but no one heretofore has been able to take them away. On another of these islets are tigers, leopards, and dangling serpents and cobras (蛇虺縱). Evil-doers do not care to come onto it. On the other there are red stones (which people) get hold of and bring away; their colour is a vivid red (紅活), their name is *ya-hu* (鴉鵲, *yakut*). It is a profitable trade for junkmen who usually use gold and silver in their trading.

The soil is poor, but suitable for raising grain (粟). The climate

1) The name, which does not occur elsewhere in any Chinese work I have seen, suggests only Bacanor, the Faknir of the Arab writers, but, if Ku-lin is, as I suppose it is, Quilon, why has Wang adopted this old form of the name used in the time of Chao Ju-kua, and not adhered to Hsiao' Ko-lan which he invariably uses elsewhere? The yarn he tells of these islands is quite new to me. P'eng-kia-lo is in all likelihood one of the places which Wang did not visit.

Tao i chih ho kang hsiang, 2, 14, takes P'eng-kia-lo to be the same as Pang-kia-la, i. e., Bengal.

is very hot. As to the habits they are simple; the people, both men and women, wrap around them a single piece of stuff of blue (or black) colour.

The people boil sea-water to make salt. They have headmen. Exclusive of the red stones (I) saw nothing else.

72. (1). *Tao i chih liu*. 86. FANG-PAI (放拜). Bombay(?).

It is in the midst of a confused mass of crooked and narrow rocks (巴隘亂). It is surrounded by bridges for getting in and out of it.¹⁾ It has no arable land, and is a barren flat. All the dry land (near it?) is grown in wheat.

The climate is constantly hot. The usages are simple. Men and women have long faces; their eyes look white, for their visages are black as lacquer. They braid their hair in a cord, and wear a long shirt of cotton drill (斜紋木棉).

They boil sea-water to make salt, and calcine "goose-egg stones" (鵝卵石) to use as charcoal in cooking.²⁾

They have a ruler.

The native products include a very fine cotton stuff; each piece is over seven feet wide;³⁾ also betel-nuts, finer than those of any other foreign part.

The goods used in trading are gold, cowrie shells, red and white beads, etc.

1) *Fang-pai*, seems to point to Bombay; if this guess is a good one, it would seem that the locality he describes may have been Tana on the island of Salsette. *Tao i chih liu kuang t'ang*, 2, 16*, thinks it is Surat (蘇拉特).

2) "Goose-egg stones" is explained in such Chinese dictionaries as I have consulted by "stones of the shape and size of a goose egg", not a very helpful explanation, but all I can offer.

3) This was probably a variety of shawl (*ssu-pu*) which we are told by the *Ko-ku lou-gao* (XIVth century) was "very white and seven feet wide".

A CENSUS OF TUN-HUANG

BY

LIONEL GILES.

The following fragment, No. 922 of the Steip Collection of Chinese MSS. in the British Museum, contains part of an official census of Tun-huang chün taken in the year 416 A.D. It is thus almost exactly 1500 years old, and would be worth publishing on account of its antiquity alone, apart from the interesting questions relating to Chinese census records in general which are suggested by it. The year 416 was the last but one of the reign of 李嵩 Li Kao, founder of the 西涼 Western Liang State, of which a brief account will be found on pp. 713—14 of my article *Tun Huang Lu*, J. R. A. S., July 1914. Under the enlightened rule of this prince, the country had enjoyed considerable prosperity, in spite of wars with the parent State of Northern Liang, which finally succeeded in re-absorbing its rebellious offspring in 420. Though still the most important city in the State, Tun-huang was at this time not the actual capital, having yielded that dignity to Chiu-ch'üan in 405.

The fragment, as preserved to us, consists of four separate pieces of paper, joined together to form a roll measuring 89×24.5 cm. On the back is a closely-written Buddhist manuscript belonging to some later period.

A

口 口 口

1. 道男弟德年廿一驛子

口 口 口

2. 仙(?)妻趙年十七

3. 仙(?)息女宮年一

口 口 口

4. 建初十二年正月籍

B

1. [敦]煌郡敦煌縣西宕鄉高昌里兵裴晟年六十五

2. 息男魄年廿九

3. 魄男<弟>湊年廿五

4. 湊妻馮年廿九

5. [丁男二]

6. 次男[一]

7. 女口一

8. 凡口四

9. 居趙羽塢

10. 建初十二年正月籍

C

1. 敦煌郡敦煌縣西宕鄉高昌里散陰懷年十五

2. 母高年六十三

3. 丁男[一]

4. 女[口一]

5. 凡口〔二〕
6. 居趙羽塢
7. 建初十二年正月籍

D

1. 敦煌郡敦煌縣西宕鄉高昌里兵裴保年
六十六
2. 妻袁年六十三
3. 息男金年卅九
4. 金男弟隆年〔卅〕四
5. 金妻張年卅六
6. 隆妻蘇年廿二
7. 金息男養年二
8. 丁男二
9. 次男〔一〕
10. 小男一
11. 女口〔三〕
12. 凡口〔七〕
13. 居趙羽〔塢〕

口 口 口

E

1. 敦煌郡敦煌縣西宕鄉高昌里散呂沾年
五十六
2. 妻趙年卅三
3. 息男元年十七
4. 元男弟勝馬年七本名臈
5. 勝馬女妹華年二
6. 丁男二
7. 小男〔一〕

8. 女口二
9. 凡口五
10. 居趙羽[長?]
11. 建初十二年正月籍

F

1. 敦煌郡敦煌縣西宕鄉高昌里兵呂德年
冊五
2. 妻唐年冊一
3. 息男明天年十七
4. 明天男弟愛年十
5. 愛女妹媚年六
6. 媚男弟興年二
7. 丁男二
8. 小男二
9. 女口二
10. 凡口六
11. 居趙羽塢
12. 建初十二年正月[籍]

G

1. 敦煌郡敦煌縣西宕鄉高昌里大所吏隨
嵩年五十五
2. 妻曹年十五
3. 息男壽年廿四
4. 壽妻趙年廿五
5. 姊皇年七十四附籍
6. 丁男二
7. 女口三
8. 凡口五

9. 居趙羽塢
10. 建初十二年正月籍

H

1. 敦煌郡敦煌縣西宕鄉高昌里散隨楊年
廿六
2. 母張年五十四
3. 丁男「一」
4. 女口一
5. 凡口二
6. 居趙羽塢

口 口 口

I

口 口 口

1. 女口一
2. 凡口二
3. 居趙羽塢
4. 建初十二年正月籍

K

1. 敦煌郡敦煌縣西宕鄉高昌里散唐黃年
廿四
2. 妻呂年廿六
3. 息女皇年六
4. 丁男一
5. 女口二

口 口 口

A

* * * * *

1. Tao's younger brother, Tê, aged twenty-one, courier.¹⁾

* * * * *

2. Hsien's²⁾ wife Chao,³⁾ aged seventeen.

3. Hsien's issue, a daughter, Kung, aged one.

* * * * *

4. Registered in the first moon of the 12th year of *Chien-ch'u*.⁴⁾

B

1. Village of Kao-ch'ang in the canton of Hsi-tang,⁵⁾ district of Tun-huang, prefecture of Tun-huang: P'ei Shêng, soldier, aged sixty-five.

2. His issue, a son, P'o, aged twenty-nine.

3. P'o's younger brother⁶⁾ Chên, aged twenty-five.

1) The characters 驛子, if indicating a profession, might have been expected, according to the scheme of this register, to come immediately before the name of the head of the family. No other subordinate member of a household is credited with a separate profession. Here occurs the first join in the roll, and it is possible that the following entries may belong to another family.

2) The character is doubtful, being written 仙; but it is certainly a personal name, and 仙 would not be an inappropriate one for the elder brother of Tao and Tê.

3) Every wife in this list is denoted by her maiden surname only.

4) According to Père Huang's tables, February 14th—March 14th, A.D. 416.

5) The *Ch'ien shu shu* (食貨志) gives the following table: — 5 家 = 1 鄰; 5 鄰 = 1 里; 4 里 = 1 族; 5 族 = 1 黨; 5 黨 = 1 州; 5 州 = 1 鄉. According to this, a *hsiang* would contain 13,300 families; but the total population of Tun-huang chün never reached this figure, so that the *hsiang* of our MS. must be something very much smaller. An enactment of the Tang dynasty is referred to in the *T'a shu shi ch'ang*, XXVII, 18, *tsung shu* f. 27 r^o, by which there were to be 100 families to a 里 and 5 里 to a 鄉. This is a much more probable ratio than the other.

6) The relative ages, etc., make it certain that 弟 has been accidentally omitted. This curious method of enumerating the members of a family, linked as it were in a sort of chain, is followed throughout.

4. Chên's wife Fêng, aged twenty-nine.
5. [Adult males: 2.]
6. Younger (adult) sons:¹⁾ [1.]
7. Females: 1.
8. Total number of individuals: 4.
9. Residence: Chao Yü's Rampart.²⁾
10. Registered in the first moon of the 12th year of *Chien-ch'u*.

C

1. Village of Kao-ch'ang, etc.: Yin Hui, settler,³⁾ aged fifteen.
2. His mother, Kao, aged sixty-three.⁴⁾

1) It is strange that younger sons, though grown up, and married, should not be included among the 丁男, but placed in a special class by themselves. Cf. D 9, where it appears that they are also distinguished from younger brothers who have not reached manhood.

2) This appears to have been the dwelling-place of all the families, with one possible exception (see E. 10), mentioned in our fragment. K'ang Hsi defines 塢 as a small barrier or low wall (小障也、一曰庫城), and also quotes the 服虔通俗文 *Tung sa wu* of Fu Ch'ien: 營居爲塢 "a cantonment is called *wu*". We shall not be far wrong, then, if we take 趙羽塢 to be a military cantonment forming part of the Kao-ch'ang village and surrounded by earthworks which were originally constructed by one Chao Yü.

3) The word 散, which occurs again in E. 1, H. 1 and K. 1, evidently corresponds with 兵 and 吏 in the other entries, and therefore must be taken as indicating a status or profession. It seems to be used elliptically for 散居, in which case the persons thus described would be colonists or settlers, engaged for the most part in the cultivation of the soil. Cf. 隋書 *Sui shu*, 食貨志 (ch. 24, l. 3 v°): 晉... 元帝寓居江左、百姓之自拔南奔者、並謂之僑人、皆取舊壤之名、僑立郡縣、往往散居、無有土著. "When the Emperor Yuan of the Chia dynasty [317-332] occupied the left bank of the Yangtze, the uprooted population who fled south were known collectively as 'Settlers'. They carried with them the names of their old habitations and applied them to the new *shên* and *shien* which they founded. These people were constantly settling in different parts of the country where there was no native population".

4) This is somewhat old for a woman with a son of fifteen, but there is no doubt about the characters. Kao of course is her maiden surname.

3. Adult males: ¹⁾ [1.]
4. Females: [1.]
5. Total number of individuals: [2.]
6. Residence: Chao Yü's Rampart.
7. Registered in the first moon of the 12th year of *Chien-ch'u*.

D

1. Village of Kao-ch'ang, etc.: Pei Pao, soldier, aged sixty-six.
2. His wife, Yüan, aged sixty-three.
3. Their issue, a son, Chin, aged thirty-nine.
4. Chin's younger brother Lung, aged [? thirty-] four. ²⁾
5. Chin's wife Chang, aged thirty-six.
6. Lung's wife Su, aged twenty-two.
7. Chin's issue, a son, Yang, aged two.
8. Adult males: 2. ³⁾
9. Younger adult sons: [1.]
10. Boys: 1.
11. Females: [3.]
12. Total number of individuals: [7.]
13. Residence: Chao Yü's [Rampart]. ⁴⁾

* * * * *

1) I cannot find that the age of adolescence, when a youth was said to 成丁, was ever fixed lower than sixteen. See my concluding note. But the present case is exceptional, Yin Hui being the only male in the household.

2) There is a small hole in the MS. here, which hardly leaves enough space for another character. Yet, as Lung was married, we are obliged to supply either 卅 or 廿.

3) The fact that Pei Pao, a man of 66, is classed as a 丁, shows that the latter term is not used in its strict legal sense. For at 65, or sometimes earlier, a man was exempted from service and became a 老. See concluding note.

4) There is a break in the roll at this point, which explains the absence of the last line with the date. At the time when the roll was formed, these census papers were evidently regarded as not worth preservation, and only useful for writing on the back.

E

1. Village of Kao-ch'ang, etc.: Lū Chan, settler, aged fifty-six.
2. His wife, Chao, aged forty-three.
3. Their issue, a son, Yūan, aged seventeen.
4. Yūan's younger brother Shēng-ma, ¹⁾ aged seven. Original name:
La. ²⁾
5. Shēng-ma's younger sister Hua (Flower), aged two.
6. Adult males: 2.
7. Boys: [1.]
8. Females: 2.
9. Total number of individuals: 5.
10. Residence: Chao Yā ³⁾ [? 's Rampart].
11. Registered in the first moon of the 12th year of *Chien-ch'ü*.

F

1. Village of Kao-ch'ang, etc.: Lū Tē, soldier, aged forty-five.
2. His wife, T'ang, ⁴⁾ aged forty-one.
3. Their issue, a son, Ming-t'ien, ⁵⁾ aged seventeen.
4. Ming-t'ien's younger brother Ai (Love), aged ten.
5. Ai's younger sister Mei (Charming), aged six.
6. Mei's younger brother Hsing (Success), aged two.
7. Adult males: 2.

1) The two characters 勝 and 馬 are written so close together as to look like one. But no such compound appears in K'ang Hsi.

2) 鰲 is an alternative form of 鰲, being also used for 蠟.

3) I can make nothing of the last character, which appears thus: 長羽.

4) 唐妻 has been written by mistake, but a tiny mark, thus: 妻, shows that the characters are to be transposed.

5) Another instance of a double personal name, and also written as if it were a single character. Its literal meaning is "to-morrow", which sounds more like a nickname than an ordinary 諱.

8. Boys: 2.
9. Females: 2.
10. Total number of individuals: 6.
11. Residence: Chao Yü's Rampart.
12. [Registered] in the first moon of the 12th year of *Chien-ch'u*.

G

1. Village of Kao-ch'ang, etc.: Sui Sung, head local¹⁾ official, aged fifty.
2. His wife Ts'ao, aged fifty.
3. Their issue, a son, Shou, aged twenty-four.
4. Shou's wife Chao, aged twenty-five.
5. (Sui Sung's) elder sister Huang,²⁾ aged seventy-four. Added to the register.³⁾
6. Adult males: 2.
7. Females: 3.
8. Total number of individuals: 5.
9. Residence: Chao Yü's Rampart.
10. Registered in the first moon of the 12th year of *Chien-ch'u*.

H

1. Village of Kao-ch'ang, etc.: Sui Yang, settler, aged twenty-six.
2. His mother Chang, aged fifty-four.

1) I can find no example of this use of 所 given in the dictionaries, but it may be compared with 所司 in the Nestorian Inscription of Hsi-an Fu.

2) This was probably her personal name, as 皇 is a very uncommon surname. If so, it would seem to imply that she was unmarried. 皇 occurs again as a personal name in K. 3.

3) The words 附籍 may mean that her name was accidentally omitted when the register was first compiled, or that she had not yet joined the family at that date. After the death of her husband, if she had no son, the duty of maintaining her would naturally fall to her brother.

3. Adult males: 1.
4. Females: 1.
5. Total number of individuals: 2.
6. Residence: Chao Yü's Rampart.¹⁾

* * * * *

I

* * * * *

1. Females: 1.
2. Total number of individuals: 2.
3. Residence: Chao Yü's Rampart.
4. Registered in the first moon of the 12th year of *Chien-ch'u*.

K

1. Village of Kao-ch'ang, etc.: Tang Huang, settler, aged twenty-four.
2. His wife, Lü, aged twenty-six.
3. Their issue, a daughter, Huang (Imperial), aged six.
4. Adult males: 1.
5. Females: 2.

* * * * *

[*Cetera desunt.*]

Of the above ten families, the surnames of two (A and I) have been lost, and the remaining eight are distributed among five clans, namely, 裴, 陰, 呂, 隨 and 唐. These families were connected by marriage with seven other clans, namely, 趙, 馮, 高, 袁, 張, 蘇 and 曹, besides which there are two cases of intermarriage between the 呂 and the 唐 clans (F. 1, 2; K. 1, 2). Each family is what the Chinese census returns designate as a 戶 "household".

1) The third join in the roll, occurring here, has not off most of the next entry.

The nine in this list that are complete (B—K) yield a total of 36 口 "persons", so that the ratio between 戶 and 口 is exactly 1:4. Though the number of cases is perhaps too small to warrant any general deduction, this ratio may be compared with those obtainable from the following census figures for Ten-huang chün (*T'u shu*, XXVII, ch. 9—11):—

A.D. 2.	A.D. 140.	A.D. 280.
戶 11,200	戶 <7> 748 ¹⁾	戶 6,300
口 38,335	口 29,170	口 not given.
R. 1:3.42	R. 1:3.76	
A.D. 609.	A.D. 740.	
戶 7,779	戶 4,265	
口 not given.	口 16,250	
	R. 1:3.81	

The following are the official totals for the whole Empire, at various dates. Here it will be noticed that the average number of individuals to each family is considerably higher:—

A.D. 2. ²⁾	A.D. 140.	A.D. 280.
戶 12,233,062	戶 9,698,630	戶 2,459,804 ³⁾
口 59,594,978	口 49,150,220	口 16,163,863
R. 1:4.87	R. 1:5.06	R. 1:6.57

1) The figure given, 748, is of course impossibly small. It is highly probable that 七千 has fallen out before 七百.

2) The high-water mark of the population under the Han dynasty.

3) The figure given is the 冊府元龜 is 22 millions, etc. As the *T'u shu* points out, this would make the families more numerous than the individuals composing them, and must be a mistake. The most obvious correction is to omit the first "2", though the proportion of individuals to families then becomes rather high. The returns for troubled periods in general are usually less reliable than those made in more peaceful times.

A.D. 464. ¹⁾		A.D. 609.	
戶	906,870	戶	8,907,546
口	4,685,501	口	46,019,956
R. 1:5.166		R. 1:5.166 ²⁾	
A.D. 732.		A.D. 740.	
戶	7,861,236	戶	8,412,871
口	45,431,265	口	48,143,609
R. 1:5.77		R. 1:5.72	
		A.D. 755. ³⁾	
戶		戶	8,914,709
口		口	52,919,309
		R. 1:5.93	

An Lu-shan's rebellion, which broke out in 755, and the devastating wars that followed, made terrible inroads on the inhabitants of China; so much so that by the year 760, if we can believe the 通典, the number of households and of individuals had actually shrunk to 1,933,134 and 16,990,386 respectively. According to the 駒陰冗記, quoted in *T'u shu*, XXVII, 18, *tsung lun* 30, 31, the number of households at one time in the *Ta-li* period (766—779) was only about 1,300,000, this being the greatest drop in population ever recorded in history (此古今最耗者).

In these early records, it may always be taken for granted that 口 stands for 凡口, the total number of individuals. This is its natural signification, as in *Mencius*, I. I. vii. 24: 八口之家 "a family of eight persons". And in the *Chin shu*, 地理志, it is explicitly stated that in 221 A.D. there were 900,000 persons, male and female (男女口), to 200,000 households in the State of 蜀. This yields the ratio of 1:4.5. From the Han to the Tang dynasty, inclusive, the ratio between families and individuals remains fairly constant, though showing a gradual rise from 1:4.87 to

1) Under the Lin Song dynasty, which only held the southern portion of China.

2) Despite an enormous increase of population, it is remarkable that this ratio should be the same as the preceding, to three places of decimals.

3) The high-water mark for the T'ang period.

1:5.93, which may be taken as a symptom of increasing prosperity. But on reaching the Sung dynasty (for the intervening 五代 period no records are available), we perceive a sudden and startling change.

A.D. 1021.	A.D. 1075.	A.D. 1083.
戶 8,677,677 ¹⁾	戶 15,684,529	戶 17,211,713
口 19,930,320	口 23,807,165	口 24,969,300
R. 1:2.29	R. 1:1.51	R. 1:1.45
A.D. 1099.	A.D. 1110. ²⁾	A.D. 1223.
戶 19,715,555	戶 20,882,258	戶 12,670,801
口 43,411,606	口 46,734,784	口 28,320,085
R. 1:2.2	R. 1:2.23	R. 1:2.23

This extraordinary diminution in the average size of the family has not passed unnoticed by Chinese writers. The 地理通釋 *Ti li t'ung shih* is quoted in the *T'u shu* as follows: — "Mr. Li in his *Hsin chuan* says: Under the Western Han, at the time when the population was most abundant, there were rather more than 48 persons, roughly speaking, to every ten families. Under the Eastern Han, the ratio was 10:52... At the most flourishing period of the Tang dynasty, about 10:58... From the *Yüan-fêng* to the *Shao-hsing* period in the present [*i. e.* Sung] dynasty, the ratio between families and individuals has been on an average 10:21, that is to say, each family consists only of two persons — an impossible state of things. The fact is that households were multiplied under false names, while the number of individuals who escaped registration was very large". ³⁾

1) The peculiar arrangement of the digits in this number lays it open to some suspicion.

2) The high-water mark of the Song.

3) 李氏心傳曰、西漢戶口、至盛之時、率以十戶爲四十八口有奇、東漢戶口、率以十戶

This passage is repeated in the *Wên hsien t'ung k'ao*, with the following addition: "In the present province of Chê [*i. e.* Chehkiang], the ratio of families to individuals is about 10:15 or or a little over; in Shu [Szech'uan], it is 10:20. The increase of population is not greater among the poverty-stricken inhabitants of Shu than it is in the south-east. The real explanation, in my opinion, is that there is no poll-tax in Szech'uan, and hence there is less leakage of individuals in the census returns".¹⁾

Sacharoff, in his "Rise and Fall of the Chinese Population", p. 24, lays great stress on the splitting up of families, and attributes it to fraud on the part of the officers of the Sung dynasty, who hoped thus to secure promotion and obtain rewards from the government. By prohibiting adult brothers from living together in one family, they managed to increase the number of families on the rolls, though without adding to the number of individuals. "Every census of the Sung dynasty bears the stamp of such abuses on the part of the authorities. In all their statistics, we find the proportion of individuals to that of families as two to one. On this account, the lists of individuals have alone any claim to veracity, whilst those representing families do not deserve the least attention".

Both of these writers, then, agree that the Sung dynasty saw a considerable augmentation in the number of families, brought about by artificial means. The Chinese puts it down to the efforts

爲五十二口...唐人戶口,至盛之時,率以十戶爲五十八口有奇...自本朝元豐至紹興戶口,率以十戶爲二十一口,以一家止於兩口,則無是理,蓋詭名子戶、漏口者衆也。

¹⁾ 然今瀾中戶口,率以十戶爲十五口有奇,蜀中戶口,率以十戶爲二十口,蜀人生齒非盛于東南,意者,蜀中無丁賦,於漏口少爾。

of individuals to escape taxation, while the Russian thinks that official greed was the main factor. Although no historical evidence is produced to support either theory, it is quite likely that both causes may have operated to some extent. That they are at all sufficient, however, to account for such a sudden, enormous, and sustained increase in the proportion of families to persons, seems to me a preposterous notion. Moreover, it has to be explained why this change in the census figures was exactly synchronous with the Sung dynasty. For the very first census taken by the Mongols shows a reversion to the old state of affairs:—

circa A.D. 1260.

戶 11,633,281

口 53,654,337

R. 1:4.61

A.D. 1290.

戶 13,196,206

口 58,834,710

R. 1:4.46

It should be noted that the ratio for 1290 is exactly double that for the years 1110 and 1223 — a significant fact.

In the *Wên hsien t'ung k'ao*, ch. 11, there appears a census return for 1080, which Sacharoff includes in his table, without however noticing its most important feature — the fact that it contains not only the 戶 and 口 as usual, but also the number of 丁. Before going on, let us examine the connotation of this term at different periods of history. In 155 B.C., the age at which a man became liable to personal service was 20. This may be inferred from the *Ch'ien han shu*, ch. 5: 景帝二年冬十二月令天下男子年二十始傅 "In winter, the 12th moon of the 2nd year of his reign, Ching Ti decreed that all males throughout the Empire should be registered on attaining the age of 20." Later on, the word 丁 was applied to both sexes, for in ch. 64b of the same work we read: 丁男被甲、丁女轉輸 "The male *ting* wears armour, the female *ting* pays taxes". Strictly

speaking, then, 丁 is not merely an adult, but an adult liable either to taxation or personal service or both. 丁男 implies the correlative 丁女, but in our present text the latter class is not specified, all females being lumped together as 女口. No further information on the subject of 丁 is forthcoming until A.D. 280, in the reign of 武帝 Wu Ti of the Chin dynasty, when it was ordained that all persons, both male and female, between the ages of 16¹⁾ and 60 should be classed as 正丁, those aged 13 to 15 and 61 to 65 as 次丁, those from 12 downwards as 小, and those of 66 and upwards as 老.²⁾ The males belonging to the second of these four classes, comprising youths and elderly men, were called 次丁男; but they must be distinguished from the 次男 of Tun-huang, where a different system of classification was in vogue. The following changes were afterwards made:—

A.D. 564 (N. Wei)

(Males only)

Until 15 = 小

16—17 = 中

18—65 = 丁

After 66 = 老

A.D. 582 (Sui)

(Males and females)

Until 3 = 黃³⁾

3—10 = 小

10—17 = 中

18—60 = 丁

After 60 = 老

1) This applied only to married women. Spinsters became 丁 at the age of 20. (隋書, ch. 34, l. 3 v².)

2) 晉書, ch. 26, l. 9 v². The *T'u chü*, strangely enough, instead of giving this passage, quotes from the *T'ai' fu yüan kwei*, which makes the age of the 正丁 60—60, and that of the 次丁 13—50, besides limiting the regulation to males only. This is obviously incorrect.

3) 黃, which is short for 黃口, is an ancient term for infants and young children. It is found in 范論訓: 古之伐國, 不殺黃口. "Of old, when states were attacked, infants were exempted from slaughter"; and from it is said to be derived the name 黃冊 "Yellow Register", the triennial census under the T'ang dynasty.

In 583, the age of manhood was fixed at 21 for the army, and in 605 it was changed to 22 for all males. The changes recorded under the Tang dynasty are:—

A.D. 623.	A.D. 705.	A.D. 744
(Males and females)	(Males and females)	(Males only)
Until 4 = 黃	22—59 = 丁	18—23 = 中男
4—16 = 小		At 23 成丁
16—21 = 中		
21—60 = 丁		
After 60 = 老		
	A.D. 763	
	(Males only)	
	25—55 = 丁	

In 963, at the beginning of the Sung dynasty, 20—60 became the age for 丁, males only being registered. The wording of this passage (from *Wén hsiên t'ang k'ao*, ch. 11 *ad init.*) deserves closer attention: 乾德元年、令諸州歲奏男夫、二十爲丁、六十爲老、女口不預 “In 963 it was decreed that all the *chou* should make an annual return of their male inhabitants, each of whom was to be a *ting* at 20, and a *lao* at 60. *The female population was not to be included*”. This last sentence can hardly bear two interpretations. It is perfectly clear that, so long as the above decree remained in force (and there is no indication that it was ever revoked or superseded before the end of the dynasty), all females were excluded from the register. Accordingly, we should be justified in assuming, without any further evidence, that all figures given under the heading 口 after this date refer, not to the total population of the Empire, but to males and males only. It happens, however, that corroboration is furnished by the return al-

readily alluded to, in which the 丁 appear side by side with the 戶 and the 口. These are the figures:—

A.D. 1080.

戶 14,852,684

口 33,303,889

丁 17,846,873

Now, the ratio between 戶 and 口 here is 1: 2.24, or practically identical with that for the years 1099, 1110 and 1223; it may therefore be presumed that the acceptance of these terms is the same in each case. But if the males between the ages of 20 and 60 number from 17 to 18 millions, it is quite obvious that 33 millions must fall very far short of the total population. If, on the other hand, we take 33 millions to represent the total number of *males*, the whole population might be estimated roughly, but with sufficient accuracy for our purpose, at 66 millions. That yields a ratio between families and individuals of nearly 1: 4.5, or about the same as the ratio for the early Yüan dynasty. The proportion of families is still appreciably larger than under the T'ang, which may perhaps be accounted for by the causes mentioned above.

Two other returns, in which the 丁 figures are given (without the 口, this time) should also be noticed.

A.D. 1088.

戶 <1>8,289,385	} 主戶 <1>2,134,733 客戶 6,154,652
丁 32,163,017	

It is almost certain that 千 has fallen out in front of 二百一十三萬, etc., under the 主戶; but in order not to base any argument on a corrupt text, we will pass on to the second example:—

A.D. 1097.

戶 10,435,570	}	主戶 13,068,741
		客戶 6,366,829
丁 33,411,606		

This census should be compared with that of 1099, on page 481. The two years which separate them were marked by no great war or other convulsion in the State, so that one may reasonably expect to find but a slight difference in the figures. And this indeed is the case, the increase in the number of households being less than 300,000. The 戶 for 1099 being about 43½ millions, we can assume that the corresponding figure for 1097 was somewhere between 42 and 43 millions. But in this same year, as we see, the 丁 alone numbered 33 millions. 口, therefore, must again stand for male persons only, and the total population for 1097 will be something like 86 millions, yielding as before a ratio between 戶 and 口 of 1:4.5 or thereabouts.

In addition to the census records for the whole Empire, I have consulted a number of Chinese local topographies, which all agree in showing the same relative increase in the number of 戶 under the Sung dynasty. In certain cases, however, the term 口 seems either to revert to its previous meaning, or to acquire a new one altogether. For example, the figures for 大名府 in the 畿輔通志 (ch. 30, f. 11 v^o) are: 戶 155,253; 口 568,976. Here we have a ratio of 1:3.66, as opposed to one of 1:1.35 for 霸州, where the figures are: 戶 15,918; 口 21,516. In the 宣化府志, the problem is complicated by the introduction of 丁, who are in nearly every case more numerous than the 口. Thus, in 西寧縣 we get:—

戶	2499
丁	8569
口	5773

The only satisfactory way of explaining these figures is to make 丁 = all adults, male and female, and 口 = all non-*ting*, so that the total population = 丁 + 口, that is, 14,342. This yields the ratio 1:5.73, which is practically the same as those we obtained for the years 732 and 740, in the most flourishing period of the Tang dynasty.

Into the thorny subject of Ming and Manchu census returns it is not my intention to enter at present. Some of the rises and falls of the population recorded in the 15th and 16th centuries are to all appearance so capricious and unaccountable, that the *Hsü wen hsien tung kao* does not hesitate to discredit them altogether.¹⁾ As to the Ch'ing dynasty, I wish only to point out that the term 丁 口, used in its official returns,²⁾ is only a fuller form of 丁, just as we might say "adult persons" instead of "adults". Sacharoff (*op. cit.*, p. 42) seems to take it wrongly in the sense of "*ting* and *kou*", and thereby falls into a grievous mistake; for he sets down the total population of China in 1711 as between 24 and 25 millions, whereas it is beyond question that this number represents the adult males alone. One need only point to the census of 1749, which indicates a population of 177 millions. Tranquil and prosperous though the period was, no sane statistician will believe it possible that the Chinese race should have multiplied itself to such an enormous extent within the space of 38 years.

1) 按國家戶口登耗、有絕不可信者。

2) See *T'ung shu*, XXVII, 17, l. 33 *egg*.

LE SYSTÈME MUSICAL

PAR

G. MATHIEU.

Le Rythme. ¹⁾

S'il est vrai, comme le faisait remarquer M. Ed. Chavannes, ²⁾ qu'un changement d'orientation est souvent, en science, le signal de progrès durables, le Système musical mériterait l'attention de plus d'un savant. En négligeant pour l'heure d'exposer la finale de la 7^{ème} loi, avec les lois qui suivent, je montrerai comment la nature attribuée au rythme le rattache au Système, pour remarquer ensuite que les "*Hirmus*" ont été employés conventionnellement pour la communication écrite de la pensée, avant de fonder, en la réglant, la figuration du langage parlé.

1) Voir le 1^{er} article au T'oung-pao, 2. 15. p. 339. — On voudra bien y corriger des oublis qui se trouvaient dans la copie remise à l'imprimeur. A savoir:

P. 344 (B. 1268. A) lire (B. 1265. A, B. 1262. B, 1264. B, C)

P. 344 Tableau ré^g 3263, 3457; lire 3236, 3457.

P. 354, ligne 10, "notes de 2^{de} espèce", lire "de 1^{re} espèce".

P. 354, note, dernière ligne, "Lexique Phonétique", lire "Lexique; Phonétique".

P. 355, note. Le G placé sous le 2^e la, dans la méthode arabe de division du sonomètre, est une lettre à enlever. (Correction mal indiquée, se rapportant à la lettre G du mot Gramus).

P. 356, 3^e loi, "ténor: sol, . . . , ut, .", lire "ut², .".

P. 359, dernière ligne, "mi, . . . , ut, .", lire "ut², .".

P. 366, au tableau, dans la col. vert. des hauteurs, entre D. et H., G, lire U.

P. 370, note "S. A.", lire "J. A."

2) Journal Asiatique, année 1895, "Rapport annuel . . .", p. 181 du tiré à part.

Cet aperçu ouvre une voie non battue, et commence l'explication de la Loi 11^e: "Pour permettre un usage immédiat devant rehausser le culte, et aussi afin de régler le fluxus de l'émission des notes en dépendance des résultats obtenus, on pensa à l'ambitus dans lequel se ment la diction publique au ton emphatique παρακαταλογή, et, totalisant les notes des séries musicales qui y avaient leur finale et leur note à rebattre, on eut des moules de quantité en remarquant la nature de la note (comme elle est définie dans la 2^e loi), et des matrices rythmiques en considérant uniquement ¹⁾ la différence des claviers".

C. 1^{er}. — Les Hirmus.

Il est admis de tous que le chant vit par le rythme; mais, de science traditionnelle, qu'est-ce que le rythme?

Cicéron, que l'on peut citer comme témoin des traditions, ²⁾ rapporte: "Haec duo musici, qui erant quondam iidem poetas, machinati ad voluptatem sunt, versus atque cantus, ut, et verborum numero, et vocum modo, delectatione vincerent aurium satietatem"; ³⁾ et il ajoute: "(Poetas) necessitas cogit, . . . liberior est oratio . . . vere soluta, non ut fugiat tamen aut erret, sed, ut sine vinculis sibi ipsi moderetur" ⁴⁾).

1) "uniquement" est à comprendre au sens indiqué E. 136, 238.

Pour les références:

Cic., Cicéron, pages du Vol. I des "Oeuvres complètes, avec traduction . . . sous la direction de M. Nisard", Paris, Firmin-Didot, 1864.

E., Études, Paris, 12 rue Oudinot, VII.

J. A., Journal Asiatique.

L. E., Leçons étymologiques du P. L. Wiegner.

P. L., Patrologie latine de Migne.

2) E. 113, p. 349.

3) Cic. 323, n. 44.

4) Cic. 324, n. 45.

Ce langage poétique lié, "χῆνος",¹⁾ est soumis, comme nous l'apprend Théodose, grammairien d'Alexandrie, à l'Hirmus. Son texte n'est pas obscur, mais ne peut être bien compris qu'à la fin du présent article; je ne prendrai d'abord que son affirmation, et m'appuierai sur le sens du mot Hirmus: εἰρημὸς "ab (?) εἶρω, necto, dico"²⁾.

L'Hirmus réunit des éléments, il est une totalisation qui lie de telle sorte les mots d'un vers, qu'il en fait un tout vivant. Et, puisque la mélodie et le vers ont même origine, l'Hirmus réglera le fluxus de l'émission des notes: — l'âme du Système oblige que ce soit en dépendance des résultats précédemment obtenus: l'Hirmus est donc une totalisation de notes, une en tant que significative de l'un des 5 Tons musicaux dans l'un des 10 Modes; et l'on a la description suivante:

"L'Hirmus réunit dans leur gradation naturelle les musicalités, qui, aux différentes hauteurs acoustiques des collections des Modes, sont comprises entre la tonique grave du clavier intermédiaire, — finale de l'air, — et la tonique aiguë du clavier inférieur, — note rebattue des Plain-Chantistes".

Les différences intrinsèques qui en résultent pour les différents Hirmus, ont permis à M. H. Schiller de soupçonner un certain rapport entre les mètres employés par Horace et les idées exprimées dans ce mètre; ³⁾ thèse exacte, mais qu'on ne peut outrer.

Toutes les totalisations significatives d'un Ton dans un Mode ne sont pas des Hirmus. Il en est dont les hauteurs trop graves

1) E. année 1806, T. 1, p. 343: "Ἐάν τις δέλη ποιῆσαι κανόνα, πρῶτον δὲ μελῆσαι τὸν εἰρημόν, . . .", — "χαυερίζω, ad artis praecepta ceroco" (au Lexicon graeco-latium de C. Schrevelius, — F. Lécuse, Paris, 1820).

2) F. Lécuse, op. cit.

3) O. Riemann, "Mètres lyriques d'Horace par H. Schiller", Paris, C. Klincksieck, 1883, préface du traducteur, p. III.

ou trop aiguës ne sont pas "ad aurium voluptatem"; le poète ne peut les admettre quand l'orateur, entraîné par les passions,¹⁾ veille à rentrer dans un certain medium. "C. Gracchus, dit Cicéron, faisait cacher derrière lui . . . un musicien habile, qui lui donnait rapidement le ton sur une flûte d'ivoire, pour relever la voix si elle venait à baisser, ou pour la ramener à la suite d'éclats un peu vifs"²⁾.

Les limites de ce medium doivent être des hauteurs acoustiques naturelles à la voix. Il semble bien qu'à l'aigu, ce ne puisse être que la hauteur définie par la loi 1^{re} du Système musical: en diapason dit normal *mi*, note *d* en diapason moyen. Il nous reste à rechercher la limite au grave.

Cicéron nous la donne indirectement. Il a observé qu'au Forum, lorsque dans la diction publique le gosier de l'orateur s'est échauffé, "*Vox quae varie tractata est, reducitur in quemdam sonum aequabilem atque constantem*"³⁾. Cette teneur, — hauteur, naturelle à la voix —, se conclura, d'après la loi de Blaserna, par une chute à la quinte, qui paraît bien la limite au grave que nous cherchons.

Cette teneur, nous pouvions l'observer à Hien-Hien, sur des voix d'enfants, avant le changement des études. Les élèves apprenaient alors à très haute voix d'interminables leçons, puis ils avaient leur récréation avec leurs jeux animés plutôt que bruyants; la cour devait résonner cette teneur des gosiers échauffés. — Au 10 Septembre 1907, à ma demande d'une observation, le P. S. Rivat répondit qu'il avait été frappé de la constance du bourdonnement de la cour: à plusieurs reprises il avait constaté que la cour résonnait nt.

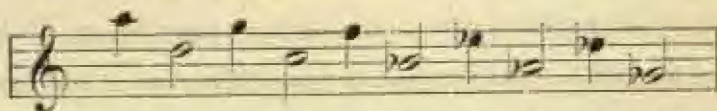
1) Cie. 330, n. 58: "Aliud enim vocis genus iracundia etiam sumat: acutum, incitatum, erebre incidens, . . . (etc.) . . .".

2) Cie. 339, n. 60.

3) Cie. 40, n. 12.

Au forum la hauteur acoustique observée par Cicéron était donc notre ut_3 ; et la quinte au grave, fa_3 , la note $E\flat$, est la limite au grave du médium qui contient les Hirmus.

Il est facile d'établir maintenant le tableau général où nous pourrions relever les Hirmus. Une notation s'impose, qui soit significative de la musicalité. Nous désignerons donc les notes par le numéro d'ordre de leur génération, ainsi qu'il suit:



notation: 0 1 2 3 4 5 6 7 8 9;

les Tons musicaux sont alors définis en constitution réelle,

Ton 1: 5381649270.

2: 70 etc.

avec les seules notes diatoniques:

Ton 1: 31420.

2: 03142.

3: 20314.

4: 42031.

5: 14203.

Les 5 Claviers sectionnés pour la Diction:

Hauteurs acoust.		\flat	E	F	\sharp	G	\flat	\sharp	a	\flat	ut	\sharp	c	\flat	\sharp	d
Notes D, clavier	5...		1			4			2			0				(3)
	4...			4		2			0				3			(1)
	3...		2		0		3		3		1			4		4
	2...		0				4		1			4		2		2
	1...			3						4						0
Notes E, clavier	5...	(8)		6			9		7				5			
	4...	(6)			9			5	7					8		
	3...	(9)		7					8				6			
	2...	(7)		5					6					9		
	1...	(5)			8				6		9			7		
Notes C, clavier	5...		8			6			9			7			5	
	4...		6				9		7			5				(8)
	3...		9			7		5				8			6	
	2...		(7)			5			8				6			9
	1...		(5)				8		6				9			7

Les Hirmas ne peuvent contenir de notes inférieures à la dernière tonique grave, ou supérieures à la tonique la plus aiguë, puisque les totalisations sont à faire, (en suite de la manière dont s'est établi le Transpositeur), en allant du grave à l'aigu, du faible au fort. Au tableau, les notes qui débordent, ont été mises entre parenthèses.

L'équivalent de ce tableau a été connu des anciens; et c'est à cause de lui qu'Aristoxène a attribué à l'octave 6 tons. Boëce, qui parle acoustique, l'en reprend à bon droit; mais Aristoxène parle métrique. Cette question sera exposée, s'il plaît à Dieu, dans un 3^e article: ici je n'en dirai qu'un mot.

Quand on voulut régler les durées musicales en dépendance du Système, on remarqua que le domaine des cordes comprises dans le medium de la Diction donnait une octave, celle qui commence après l'énonciation D jusqu'à l'énonciation d; et l'on convint que cette octave mesurerait les durées, l'unité de mesure, — *μέτρος χρόνος* —, étant prise un tainne, plus exactement, un sixième de l'octave. On eut ainsi une durée de 6 mètres, le 1^{er} étant rempli par le son de la corde sonore, depuis qu'elle ne donne plus D jusqu'à ce qu'elle sonne E: durée métrique, qui n'est pas un "individuum quid fluens", mais doit être considérée comme prise en bloc, le commencement étant indiqué par un accent métrique.

Cette "importance de temps métrique", attachée à la hauteur E, fut ensuite attribuée à chacun des 12 demi-tons de l'octave: ils furent considérés comme des "bases solides"; et, comme quelques-uns étaient des hauteurs assonances qui, rattachées aux voyelles, portèrent ensuite des syllabes, dans l'incertitude du nombre de consonnes précédant de fait, ou suivant de fait la voyelle, on convint de supposer comme distribution normale une répartition égale des con-

sonnes avant et après la voyelle, ce qui permettait la convention de la division de la longue métrique en 2 brèves métriques.

Le symbole de la brève métrique évoquant une idée de faiblesse, comme celle qu'évoquait les notes "tchal", notes prosodiquement brèves, la 1^{re} partie du mètre portant l'accent métrique fut regardée comme devant être affectée du symbole signifiant la solidité, la force, le symbole "p'ing", la seconde partie du mètre portant le symbole de la faiblesse "tchal". Ainsi la 1^{re} figure, le 1^{er} pied métrique, était un dactyle, que l'on peut définir une figure thesis-arsis dans le souvenir de l'opposition p'ing tchal, et de la loi qui engendre les premiers au grave, les tchal à l'aigu. — Il s'agit de durées, donc de prononciation de paroles ou de chant de mélodie; les commencements des 2 parties du dactyle sont à indiquer, ce qui ne peut se faire que par un ictus, — l'ictus affectant le commencement de la thesis, et, par suite, devant être de sa nature, est donc plus fort que l'ictus affectant le commencement de l'arsis. — On le voit, l'accent métrique n'est pas l'ictus: il l'a précédé.

Enfin, comme l'octave métrique couvre en fait, dans le Système musical, 16 dénominations de hauteurs acoustiques, on attribua à chacune d'elles la valeur d'un temps métrique. Ce qui fera dire à S. Augustin (P. L. 32. 1128): "Cum ergo metrum incipiat..(etc.)"; passage à lire, le tableau précédent sous les yeux, comme je l'expliquerai dans un 3^e article.

Le tableau est ancien: car c'est en conséquence du 1^{er} état de la métrique, que le jour a été partagé, sur le dis-diapason, en 6 heures (heures doubles) de jour et 6 heures de nuit.

Une remarque: la musicalité 1, tonique grave du Ton 5, ne se trouve dans les claviers intermédiaires —, les claviers 2, 3, 4, —

qu'au clavier 2, sans qu'au clavier inférieur, ici 1, se rencontre à l'aigu la musicalité 3, note à rebattre : — (voyez la définition en notes Diatoniques du ton 5). Nous n'avons donc point d'Hirmus de Ton 5: et cependant il y a des mélodies écrites dans ce Ton. On est libre dans le choix des Rythmes.

— Les Modes sont définis par les combinaisons diverses des 5 Claviers, comme nous l'avons vu, à savoir :

α , 124; β , 245; γ , 235; δ , 125; ϵ , 134; ζ , 135; η , 234; θ , 145; ι , 345; κ , 123.

Les tons 1, 2, 3, 4, par le binôme de leurs 2 toniques extrêmes : 3—0, 0—2, 2—4, 4—1. —

On remarquera au tableau des notes de 1^{re} espèce, notes D, les Hirmus possibles. Chaque Rythme D ainsi déterminé en entraîne 2 autres, par l'adjonction des notes de 2^{de} espèce en leur état E, — pour le genre majeur —, ou C (genre mineur).

On n'a pas à relever à part les notes de 2^{de} espèce; car, pour subsister, elles ont besoin de l'appui des notes D. D'ailleurs on ne peut imaginer de faire entrer dans ces totalisations de notes de voix de poitrine, les sons de la voix de tête. On n'a donc pour un Rythme D possible, que 2 autres Rythmes, les Rythmes majeur et mineur, que je désignerai par l'état des notes de 2^{de} espèce qui y entrent, Rythme E, Rythme C.

Ce qu'il faut signaler dans l'Hirmus ¹⁾, c'est, avec les hauteurs

1) Il m'a semblé reconnaître dans nos vers toniques la collection entière; je l'indique en passant. Les accolées servent séparées par des (,); — par (:) au cas d'une pause métrique de 2 brèves — par un { } si la pause est de 4 brèves. Dans ces deux cas, la pause est à faire, ou bien la prononciation de la dernière syllabe doit se prolonger.

2. 4. 1. D. Ho, l*é* 4. 4. D. Hé, l*é* 4. 1. E. Des, v*ie* l*é* l*é*

4. 1. C. L*é* : s*u* s*u*, gl*é* s*u* l*é* 4. 2. D. T*é* m*é* : l*é* s*u* l*é*

4. 3. D. Et, s*u* l*é* s*u*, ce 4. 4. C. D*u* : s*u* l*é* s*u* l*é*

acoustiques, les notes que ces hauteurs groupent. Il faut signaler leur musicalité, leur nature de note de 1^{ère} ou de 2^{de} espèce, la cla-

5. β . 2. D. La, la, ne blas, che β . 4. D. Dana, la ramé, e
 ζ . 1. D. Pas, se : à, grand, bruit β . 4. E. O bien, aimé : e
6. β . 3. D. Pa, rie sa grand' vil, le β . 1. D. Fort, tel, le, elle, dort
 α . 1. D. Il, dit : se, pieux, point γ . α . 1. D. Et, ne, se, cherche ja, mais
 α . 2. D. Leurs, é, légau, ces : leurs, joies ζ . 2. D. La, nuit, com, me : un flam, beau
 ζ . 3. D. C'é, tait : dans, la, nuit bru, ne β . 2. E. Tel, en un ve, erai, val, lon β .
2. U. Com, me : un point sur, un ; β . 3. E. Et, leurs molles : ombres, bleues β .
3. U. Sans, amour et sans lui, ne
8. α . 3. D. Dont, vous, avez, compté, les, pas β . 2. D. Tout, hil, lionnent, dans, l'ex :
ta, se α . 3. D. Par, mi : les, frissons, de bri, se α . 3. D. Main, tes dévo, tes o,
rai, sons α . 4. D. Qui : s'a, nime, rit un les, tant χ . 1. D. Et, les mar, que : à,
grand fra, cas
9. β . 4. C. Et : les bel, les ambiti, ones γ . 3. D. Un, ses, ge, au rien tout, lui fait,
pour γ . 2. D. Ton, sau, le sacré, dont, les feuil, les γ . 2. D. Quand, il, s'agit, de
ce qu'il, ai, me
10. β . 3. C. Bon, souper bon gi, te et : le, reste β . 4. E. Qu'il é, tait : beau le ciel, et
grand l'es, poir ζ . 1. E. Ce, maudit, son, ge, en est la, cas : se ζ . 1. C. L'es, poir :
a fui, vaincu : vers le, ciel noir χ . 2. D. De, mi : mor, te et, demi, toi : ten, se
11. β . 2. E. Rap, pelle toi : quand, l'aurore, cralati : ve
 α . 1. C. Ou, vre : au soleil, son palais : na, chanté
12. β . 3. E. Et, levée en : surant fur, lire et : vi, ve
 β . 3. C. Et, comme un couraier bri, sé de fait, gas
 β . 1. C. Pour, la dernié, re : fois, adieu toi : gneur, Hélas
 α . 1. E. No, tre père, qui, nous, tires ti, res ti : res
 ζ . 2. E. O, va pri, er : con, tre l'ora, ge, va pri, er
 ζ . 3. E. Hlp, poly, te, grande, dieux C'est, toi qui : l'as nom, mé
 ζ . 3. C. J'ai, faim : vous qui, passez, dal, guez une secon, cir
13. α . 1. C. Si, pour qu'un vi, ve : en pais, il faut fermer, les cioux
 β . 1. E. Oai, je vins : dans, son tem, ple : adorer, l'Éter, nel
 α . 2. E. Car, ses deux, bras le, rés pré, sentaient à, la, ter, re
 ζ . 2. C. Par, rette : sur, sa té, te : ayant un pot, au lait
14. α . 2. C. Le, timi : de, escadron se, dis : sippo et, s'enfuit
 α . 3. E. Je, le suis, je veux, l'à, tre ô aié, des ô : moi, re
 α . 3. C. Pais, se : un pré, tre être là : Jé, sus quand je mour, rai
15. α . 1. E. Ap, prendre : u, ne plus dou, ce : et meillen, re nouvel : le
 β . 2. E. O, grames, se : ô me, nace : ô, téubreux, mys, té, re
 β . 2. U.
 α . 4. C. Car : l'abîme, est immen : se, et la tache est, au fond
16. α . 2. E. La, pauvre, fleur : disait, au papil : lon sé, leste ne, fois : pas
 α . 2. C. Vois, com : me, nos dextins, sont différents ja, res : te tu, t'en vas
 α . 3. E.

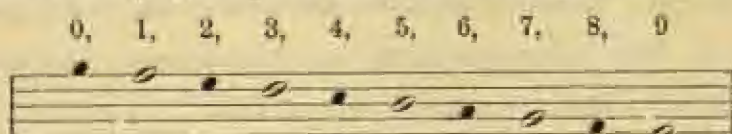
C. 2. — Langage écrit.

Par convention les Hirmus ont servi pour la communication écrite de la pensée. La preuve en est que l'accent d'intensité paraît bien avoir fondé la syntaxe première de phrases qui auraient été des collections de signes idéographiques disposés selon les Hirmus. Dans un développement ultérieur du langage écrit, l'Hirmus a donné la prosodie antique.

ARTICLE 1. — ACCENT D'INTENSITÉ.

Lorsqu'en science du Système musical on considère les notes groupées dans un Hirmus, ce qui frappe d'abord, c'est que ces notes, engendrées les unes des autres, constituent une hiérarchie qu'il convient de reconnaître.

Cette hiérarchie est signifiée dans l'échelle suivante, qui a été établie sur cinq lignes qui ne sont point notre portée :



Cette figuration donne, dans les hirmus, en graphiques, les rapports hiérarchiques qu'ont entre elles les musicalités.

Or, leur groupement selon une même hauteur acoustique écarte d'abord l'imagination d'une réalité auditive, et les symboles de musicalité apparaissent des signes de raison, — ce qui est un fondement suffisant à une communication écrite à ne pas prononcer. Car l'importance relative des idées peut se différencier, dans l'Hirmus, en remarquant que chaque caselle constitue un groupement où une note l'emporte en préséance sur les autres, l'ensemble de ces notes remarquables permettant dans leurs relations hiérarchiques une syntaxe conventionnelle de la phrase.

Le signe de raison attaché à ces préséances remarquables est ce que nous avons appelé l'accent d'intensité: et la réalité de la convention supposée paraît établie par cela qu'elle explique le fait de la syntaxe antique, — syntaxe dont l'influence est encore sensible dans les langues anciennes classiques ¹⁾.

L'importance traditionnelle accordée aux notes de 1^{re} espèce et qui a permis les Rythmes D., qui existent certainement, paraît n'avoir pu s'établir qu'ici. La "fonction" de régler la syntaxe de la langue écrite a été estimée "fonction honorable", — nous le verrons au ton jōu-cheng —, les premiers Hirmus employés pour la communication écrite de la pensée ont donc été ceux où l'accent d'intensité ne pouvait affecter que les notes 0, 1, 2, 3, — ce qui sera compris plus tard —, donc des Rythmes D., et, comme ces Rythmes ont 2, 4, 5, 6, 7, 8, 9, 10 notes, les parases antiques ne comporteraient que ces mêmes nombres de signes.

Par après, l'accent d'intensité a été reconnu dans les Rythmes E. et C.; mais manifestement dans un développement ultérieur du langage écrit, celui que reflète le vers gâthique.

Après avoir rappelé que "le seul accent qui ait agi sur le développement de l'iranien est l'accent d'intensité," M. A. Meillet ²⁾ conclut que, dans le vers gâthique, "seul l'accent d'intensité (présenté par l'iranien moderne et dont l'existence à date ancienne est attestée par les altérations mêmes de la langue) peut être en jeu.

"On admettra donc ici, — ajoute-t-il —,

1) E. 70, pp. 642, 643. P. A. Preters: "La syntaxe des anciens . . . est souvent chez eux aussi parlante que les mots: il faut donc savoir ce qu'elle dit pour saisir toute l'étendue de leur pensée". D'ailleurs: "La syntaxe ancienne . . . n'est pas une incarnation des lois de la raison pure, et n'obligeait pas ceux qui l'employaient à penser plus logiquement que d'autres."

2) J. A. B. 15. 271, — 356, Note 1.

"1^o. Que tout mot phonétique des *gâthâs* a au moins un accent principal;

"2^o. Que cet accent tombe sur la pénultième de tout dissyllabe et, dans le cas des polysyllabes, sur la pénultième si celle-ci est longue, sur l'antépénultième si la pénultième est brève;.....

"Dès lors la métrique des *gâthâs* devient claire; chacun des hémistiches comporte un nombre déterminé d'accents....

"Si l'on prend par exemple le vers de 11 syllabes coupé en 4 + 7,..... on y trouve ainsi 2 + 3 accents régulièrement, et ces accents sont répartis de la manière suivante."

Notre collection n'a que 2 Hirmus de 11 syllabes; la division indiquée désigne β 2. E.

De plus, il s'agit de ce que j'ai appelé moi aussi "accent d'intensité": la différence des 2 graphiques de l'accent d'intensité et du graphique de l'accent tonique le montre assez. Le premier, non le second, s'accorde avec les observations de l'auteur.

β 2. E. — Graphiques,
accent tonique,
Musicalités,
accent d'intens.

0, 6 5 7 : 0, 4 3 5, 9 8 : 2.

Caselles a b c ré b d

"Le premier hémistiche se compose le plus souvent de deux dissyllabes, ...; ou encore d'un monosyllabe et d'un trisyllabe ...; ou enfin d'un mot de 4 syllabes ...

"Le second hémistiche, plus long, est aussi plus compliqué. La forme la plus ordinaire est: 2 dissyllabes et 1 trisyllabe, ce dernier placé, en général, à la fin du vers, mais pouvant aussi occuper les deux autres places ...". — M. Meillet reconnaît (p. 277) des "diffi-

cultés"; la division du second hémistiché, même la plus commune, en est une. Si on ne peut admettre que le trisyllabe final est constitué par l'accent d'intensité qui se trouve sur la dernière syllabe, on n'a plus qu'un accent métrique ¹⁾ sur 9: mais le vers gâthique appartient à une époque de transition, qu'il doit donc refléter; tel quel cependant, il porte un vestige d'un état plus ancien, celui dans lequel l'accent d'intensité réglait la syntaxe de la phrase écrite.

ARTICLE 2. — PROSODIE ANTIQUE.

Les notes sont engendrées, — loi 2^e du Système musical —, comme termes d'une quinte au grave, ou d'une quarte à l'aigu. Ce qui donne des notes *p'ing* et *tchai*, ai-je énoncé, qui sont nos longues et brèves prosodiques.

Sous cet aspect particulier, manifesté par les chiffres impairs ou pairs significatifs de la musicalité, relisons les Hirmus. Dans la considération présente, l'unité qui fait le vers ne peut plus être signalée qu'en notant les hauteurs acoustiques des caselles terminales, et, en quelle manière, — par quelles caselles —, on progresse de la caselle initiale à la caselle finale.

Ces "pieds" qui recueillent les musicalités situées à une même hauteur acoustique pourront contenir de 1 à 6 de ces musicalités, et pas davantage, puisque l'hypothèse la plus favorable ne peut

1) La musicalité 9 commençant dans cet Hirmus le domaine de *ré*, 2 étant en *à*, on a le thème qui commence à l'expiration de *e* pour finir avec *à*. — Le vers *β. E. E.* vérifie la règle donnée par M. Meillet. Je ne crois pas à une pareille rencontre, bien que la règle, — si l'on prend la collection complète des Hirmus —, comporte des exceptions, par ex. la caselle 334, qui a son accent d'intensité sur 2, pénultième brève. Je suppose un départ parmi les Hirmus, sur une raison que je ne vois pas, mais qui est d'ordre général; car semblablement il en faut; mais, cette fois, parlant accent tonique, pour que soit vraie cette règle qu'en rase, dans les vieux contes, la place du dernier accent de chaque vers est "sur l'antépénultième ou sur la syllabe précédente" (E. année 1868, loc. cit. p. 344, Note). Nous aurons à constater que les Chinois écartent de leur collection certains vers.

réunir en une même hauteur que 2 notes par clavier, — quand une note de 2^{de} espèce est venue, en genre C., coïncider en hauteur avec une note de 1^{re} espèce. Ce pour quoi l'on dit en prosodie: "Sed scias, multis visum esse etiam senarum syllabarum pedes nuncupandos; sed amplius, quod sciam, nemini placuit" ¹⁾).

Notre collection nous donne les pieds traditionnels de 2 et de 3 syllabes: comme pieds de 4 syllabes, l'ionus a majeure, l'ionus a minore, le choriambus, l'antipastus; enfin quatre pieds de 5 syllabes, et un pied de 6 syllabes.

Les péons, les épitrites, le dochmius manquent; mais ce sont là des pieds métriques. Aristote interdit ²⁾ à l'orateur les rythmes des poètes, et lui recommande ³⁾ les péons. Les épitrites n'ont apparu en Grèce qu'avec la poésie dorienne; le dochmius est, nous le verrons en métrique, un pied métrique ⁴⁾, — "oratoriae compositioni maxime appositum", dit E. Alvarez ⁵⁾.

Comme vers antiques, je prendrai les vers chinois. "Porro exstant multigeneris: binarii, ternarii(?), quaternarii, . . . , endecasyllabi; exstant imo qui progredientes, impari pede succrescunt, 1, 3, 5, 7, 9. . . . At ex his, quinarium et septenarium maxime vigent" ⁶⁾).

Il s'agit de notre collection: en y négligeant les Hirmus de 12, 14, 16, 18 notes, en tout 19 hirmus, il reste 53 monles, qui, avec leurs 2 toniques au grave et à l'aigu, — rimes islandaises et rimes

1) P. L. 32. 1123, a. 14. S. Augustin, de music.

2) Cfr. P. L., 161. 756, A.

3) Cic. 323, C. 47.

4) La prosodie antique, la métrique première dont il a été question jusqu'ici, sont de la langue écrite; les figures métriques, qui y correspondent, sont le dactyle, l'anapest, la trochée, l'iambe: les autres figures appartiennent à un 2^e état de la métrique, celui du langage parlé, avec les ictus.

5) De Insulat. grammat. dans l'édition de Paris, Le Clère, 1559, à la p. 485.

6) P. A. Zottoli, Carmin. litter. sinic. Vol. 5, pp. 434—436. Chang hai, 1882. — Les "ternarii" de Chou K'ing sont contestés.

françaises —, donnent 106 rimes. "Sinae habent 106 (rimes): totidem enim selegerunt litteras (chefs de rimes), 15 ad planum altum, totidem ad planum inum, 29 ad assurgentem, 30 ad erumpentem, 17 ad regredientem tonum pertinentes".

On peut étudier un vers en particulier. Notre collection contient 4 vers de 5 syllabes (-musicalités); or, les Chinois les réunissent ensemble: ne serait-ce pas là l'origine du Quatrain? — Je les donne dans une de leurs dispositions avec leurs p'ing tch'ai:

Hirmus	$\beta. 2. D.$	$\beta. 4. D.$	$\zeta. 1. D.$	$\delta. 4. E.$
Caselles	a. ζ , c. d	F. G. a	a, b: ζ , c. d	F, sol: b: G
Notes	0, 0, 4 3. 2	4. 3 2 4. 1	3, 4: 1, 2. 0	4 6, 8 9: 1.
quantités prosod.	~ ~ ~ ~ ~	~ ~ ~ ~ ~	~ ~ ~ ~ ~	~ ~ ~ ~ ~
Vers chinois	~ ~ ~ ~ ~	~ ~ ~ ~ ~	~ ~ ~ ~ ~	~ ~ ~ ~ ~

La concordance est manifeste, avec une exception pour la note 4, que les Chinois font - ou ~, - pour obtenir une régularité d'opposition entre leurs vers 1 et 2, 3 et 4. La retouche est intentionnelle, elle se rencontre dans leur quatrain de 7 syllabes pour une note de musicalité 0:

les Hirmus donnent, $\alpha. 1. D.$ ~ ~ ~ ~ ~

$\delta. 2. E.$ ~ ~ ~ ~ ~

les Chinois écrivent, ~ ~ ~ ~ ~

~ ~ ~ ~ ~

Nous y reviendrons tout à l'heure. Actuellement on peut remarquer que dans le Quatrain en vers de 5 syllabes, les vers 2 et 4 riment pour les Chinois, et non les vers 1 et 3. Avec nos Hirmus nous constatons que sont dits rimer les vers au même Ton musical, ici le Ton 4 avec ses deux rimes initiale et finale, les musicalités du binôme 4—1. A ce compte les Hirmus avec les quatre Tons musicaux

qui y entrent, donnent 8 rimes, — les 8 tons asiatiques. Ces tons appartiennent à la langue écrite et ne sont point à prononcer; car la parole est comme une musique, la musique n'existe pas sans tonalité, et la tonalité ne se trouve réalisée musicalement que dans les Modes, que les 8 tons asiatiques n'affirment point.

C. 3. — Langage parlé.

Les musicalités des Hirmus ont été considérées jusqu'ici abstraction faite des relations qu'elles peuvent avoir avec des hauteurs acoustiques. Il en est cependant de telles: par sa ligne des nuances, l'Hirmus choisi comme phrase musicale détermine celui des 3 claviers où doit se prendre la note qui entre dans la mélodie; les musicalités de l'Hirmus sont par cet intermédiaire dans une relation réelle avec des hauteurs acoustiques, celles qui entrent dans la mélodie.

Mais plus proche est la relation à laquelle les 8 tons asiatiques font penser. Les rimes, en effet, entreraient en quelque manière dans la réalité auditive, si on les prenait dans leur relation avec leur caselle; car, pour un même Ton, la hauteur de cette caselle varie avec le Mode. — On le remarqua, et les Hirmus servirent à fonder le Système Phonétique.

§ 1. — *Voyelles, (consonnes), et syllabes.*

Lorsque l'on distingue les unes des autres les rimes qui n'ont pas même hauteur de caselle, on trouve 18 rimes ainsi réparties:

Tons musicaux.	4	3	2	1
Rimes finales, musicalités	1	4	2	0
hauteurs des caselles.	Ga $\frac{1}{2}$	b c d	c d	d
Rimes initiales, musicalités.	4	2	0	3
hauteurs des caselles.	F	E G	E $\frac{1}{2}$ a	G a c

Lesquelles se classent suivant 9 hauteurs acoustiques:

les rimes finales à G. a. β . ζ . c. d.

les initiales à E. F. \sharp G. a. c.

Collection qui pouvait suffire pour différencier les voyelles que l'oreille saisit dans le langage ¹⁾; collection qui de fait fut choisie pour arrêter et définir les "φωνήεντα γράμματα", — les voyelles.

"Vocales Chaldaeas, eadem quam Hebraeis, novem numero, ... Habuerintne antea Chaldaei alias vocales, tres forte, jam non disputo." (J. D. Michaelis) ²⁾. — Et, en 1661, G. Dalgarn ³⁾ signalait que les voyelles constituaient deux séries, qu'il faisait partir de *a* pour aboutir à *i* et à *ou*.

Si les hauteurs des caselles ont été choisies pour arrêter les voyelles, il va de soi que les musicalités ont servi pour déterminer les consonnes. Ainsi la caselle donnait une syllabe: ce qui amena la règle "Syllaba non plus quam ad sex litteras in latino sermone procedere potest ... (stirps) ...". Règle fondée sur le nombre des signes de musicalité qui peuvent se rencontrer dans la caselle: avec la hauteur acoustique de la caselle, donnant la voyelle, 5 consonnes correspondant à 5 signes de musicalité. Règle exacte à une exception près: dans l'Hirmus β . 3. C. la caselle de hauteur a, "817092" donne une syllabe de 7 lettres, comme en allemand "schlank".

Ces hauteurs acoustiques, que l'on peut appeler "assonances" ⁴⁾,

1) Au siècle dernier, Helmholtz a de nouveau remarqué que, dans l'émission naturelle des voyelles, les hauteurs acoustiques entraînent en jeu. Et la Phonétique actuelle les distingue encore en nombre: 9, "Aperturas labiorum in efformandis vocalibus faciendae". Cfr. *Anthropos*, Tome 2, en face la p. 208, fig. 1. a.

2) Dans l'éd. de Castellini, Romae, 1851, "Gramm. hebr., item chald.", p. 111.

3) *Anthropos*, Tome 2, p. 525. P. G. Schmidt.

4) P. L. 111. 618. A., Baban Maur, "excerptio de arte grammaticae Prisciani".

5) "L'assonance porte sur la dernière voyelle accentuée". L. Gautier, *La Chanson de Roland*, 11^e éd., Tours, A. Mame, 1881, p. XXIX.

Les 17 rimes que Tsou Yu-t'ai relève dans le *Cheu King*, sont manifestement de nos

et qui nous ont donné, dans l'intérieur de l'Hirmus, toutes les syllabes de plus de trois lettres, peuvent être dans les Rythmes E. et C. séparées les unes des autres par des cases à hauteur acoustique différentes, et qui ne contiennent que des notes de 2^{de} espèce. Pareilles hauteurs ne peuvent fonder de syllabes: cependant comme elles existent, quand, dans l'Hirmus ou les franchira, on sera invité à signaler leur présence, ce qui ne peut se faire qu'en modifiant la voyelle de la syllabe précédente pour faire entendre "d'un seul coup d'air" une diphthongue ¹⁾, dont la deuxième lettre, on le voit, sera "une voyelle glissante".

Encore, dans les Hirmus, il se rencontre des hauteurs "assonances" qui ne contiennent que des notes de 2^{de} espèce. Pareilles musicalités, privées de l'appui des notes de 1^{re} espèce, ne peuvent porter le poids d'une consonne. Dans ce cas, à cause de la valeur propre de la hauteur "assonance", on les fait sentir dans la prononciation, mais simplement comme "sonnante" ou "consonne voyelle".

§ 2. — Mots polysyllabiques.

La relation première qu'éveille l'idée même de l'Hirmus avec ses deux hauteurs acoustiques affectant ses rimes initiale et finale, n'est

18 rimes à assonance. Cfr. J. A., année 1893, M. Ed. Chevaux, Les inscriptions des Tria, — au Tiré à part, p. 42.

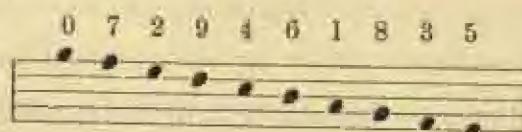
Les "assonances de la Chanson de Roland" m'apparaissent une note de vielle, — la hauteur d, notre mi₂. La Chanson contient des vers de 11, 12, et 13 syllabes, car les e muets sont à compter. Or les Hirmus de 11 syllabes ont comme case finale d. Pour ce que j'ai vu, les vers de 12 et 13 syllabes sont choisis à même case finale d. Mais le jongleur fait sonner à cette assonance d, toutes ses assonances à lui, en s'obligeant seulement à une même homophonie dans une laisse.

1) Anthropos, Tome 2, p. 533 et p. 567, H. Sweet.

La triphthongue n'existe pas: du moins, je ne vois pas la raison qui permettrait de faire sentir, dans J. I. E, en allant de j à e, avec la hauteur ut₂, la hauteur, — assonance, je le veux bien — j, qui est absente. — Autre est la conception de la métrique, autre le système phonétique.

pas la seule. Une autre relation, commune à toutes les musicalités, relie ces musicalités à la réalité acoustique qu'est la constitution des Tons musicaux. A ce point de vue, les notes de 2^{de} espèce ne sont pas à distinguer des notes de 1^{re} puisque la mélodie réclame leur mélange. Cette remarque permettait de leur assigner en Système phonétique même emploi; et on fit alors porter aux différentes musicalités d'une caselle des syllabes entières, que la caselle réunissait en un mot polysyllabique. Cette unité fut donnée pour l'oreille par une reconnaissance qu'on ne pouvait oublier, je veux dire la reconnaissance auditive de la constitution tonique du Ton 1.

Cette constitution se signifie, selon sa valeur hiérarchique, par la gamme descendante donnant l'Octave constitutive de ce Ton, et que le graphique suivant signale:



échelle qui n'est pas une mélodie, et qui ne peut donc s'affirmer dans le parler par l'observation de hauteurs absolues, mais seulement par des indications de prononciation vers le grave ou vers l'aigu. L'élévation la plus aiguë dans la caselle semble grouper autour de soi les autres syllabes; et nous disons que la syllabe qui y correspond est affectée d'un accent tonique.

"Ainsi, — disent les grammairiens —, dans le mot *apostolat*, le ton, assez bas sur *a*, s'élève sur *pos*, redescend sur *to*, pour se relever plus haut et plus fort sur la dernière syllabe *lat*" ¹⁾. Et comme, dans les caselles, la musicalité qui porte l'accent tonique ne remonte pas au delà de la 3^e place, — sauf pour deux caselles —,

1) P. A. Seugler, *Gramm. franc. historique*, n. 142. Lefort, éd., Lille et Paris.

les Latins disent: "Ipsa enim natura quasi modularetur hominum orationes, in omni verbo posuit acutam vocem, nec una plus, nec a postrema syllaba citra tertiam" ¹⁾. L'exception des caselles α, 6813 (des Hirmus α. 1. C. et α. 2. C.) et caselle ζ, 6815 (des Hirmus η. 2. C. et η. 3. C.) ne va pas contre la preuve, puisque l'accent tonique sur la préantépénultième est encore en usage en portugais ²⁾ "dans les verbes suivis de pronoms liés par des traits d'union, lesquels doivent en ce cas se prononcer comme faisant corps avec le verbe... *dizêndo-nol-o* (en nous le disant)" ³⁾.

1) Cic. 441, C. 18.

2) P. de Sousa, Gramma. portug., Paris, Garnier éd., 1870, p. 15. — Peut-être l'exemple est-il αβ en α. 2. C., aux caselles sol ζ, α: β, 6813.

3) Note sur "le recul de l'accent tonique".

Avec le temps, la distinction des deux accents d'intensité, — et tonique, devait aller s'oblitérant. Pour ne parler que de la Collection et non de son emploi, les caselles offraient 142 concordances de position des deux accents, contre 53 discordances. Une science incomplète pouvait s'y méprendre, et, réagissant contre la possession d'usage, imposer comme accent tonique un accent d'intensité. Par après nous croyons nous trouver en présence d'un recul d'accent.

Soit par ex., un mot comme 69, qui ne se rencontre qu'au vers de 12 syllabes, ζ. 3. E.; son accent d'intensité est sur 6, son accent tonique sur 9. En égyptien on dit *kafak*, là où l'algérien prononce *déak*; et M. Mayer-Lambert, qui en raisonne, estime qu'"il ne semble pas douteux que si les voyelles sont mieux conservées en Égypte, le ton, par contre, s'y éloigne davantage de la prononciation classique", et il conclut à "un recul d'accent".

L'explication me paraît être la suivante qui écarte un "réel recul d'accent". Dans leur science, les Égyptiens ont sagement vu que la loi de génération amenait la suite acoustique suivante: 0, 2, 4, 6, 1, 8, 3, 5, 7, 9; dans leur ignorance ils l'ont prise, — en place de l'Octave

0, 7, 2, 9, 4, 6, 1, 8, 3, 5, —

comme constitutive de l'accent tonique, et se sont targués de leur érudition, — incomplète et fautive —, pour imposer leur décision. Avec 69, par exemple, ils donnaient à 6 une prééminence acoustique qui revenait à 9; d'autre part, 6 précédant 9 dans l'ordre de génération portait l'accent d'intensité. Cfr. J. A. 9. 10. 409.

Il se peut qu'en suite de cette première erreur, on ait imaginé pour un mot comme 667, caselle β des vers β. 2. E. et β. 3. E., deux (7) accents toniques. — Cfr. J. A. 9. 10. 406.

Remarque. — Accent grammatical.

Dans l'Octave réglant l'accent tonique, des notes de 2^{de} espèce l'emportent sur des notes de 1^{re} espèce. Or, si en mélodie les deux genres de notes entrent également, il subsiste entre ces deux genres une différence: nous l'exprimons maintenant en disant que les notes de 2^{de} espèce ne peuvent porter le poids d'un accord. — Il convenait donc, dans le parler, d'attribuer aux notes de 1^{re} espèce une prérogative sur celles de 2^{de} espèce. On le fit, en leur réservant le privilège de déterminer le sens de certains mots, comme en langue écrite leur revenait la fonction honorable de constituer l'ossature syntaxique de la phrase. Et on eut les tons chinois, cháng-p'ing, hiá-p'ing, cháng-cheng, k'iu-cheng, jôu-cheng.

Les premiers sont en français nos accents grammaticaux; jôu-cheng correspond à l'*e* muet, origine de nos rimes féminines.

Commençons par ce dernier, car il est à part des autres. Là où les Chinois l'observent, alors qu'ils diront par ex. "màimái" (acheter vendre; commerce), devant le ton jôu-cheng, leur voix à peine s'épand, qu'elle rebrousse chemin, "ainsi que fait la main au contact d'une tasse de thé trop chaude", — P. Couvreur: "un oui dit à regret" ¹⁾.

Les tons cháng-p'ing, etc. affectent les rimes. Or, comme rime, 4 diffère essentiellement des autres, elle n'est pas en état adulte. — La note qu'elle engendre est une note de 2^{de} espèce, qui ne peut, comme telle, faire fonction de rime.

Cependant, ainsi que nous l'avons vu, la corde sonore ne désignait la division du temps qu'à la fin de sa course, en son état adulte. Ici la fonction de déterminer dans la prononciation le sens des mots, est une fonction pareille; il y faudrait donc l'état adulte.

1) *Diet. class.*, 3^e éd., 1911, p. X.

Le grammairien qui y prend garde, rencontrant dans l'hirmus la rime 4, remarque que cette essence ne peut passer à l'existence ¹⁾; sa voix rebrousse chemin, et fait entendre, en chinois le ton joü-cheng, en français l'e muet de nos rimes féminines.

Cette théorie se corrobore, en chinois, par l'accord suffisant que nous allons trouver entre les chiffres donnés par les Chinois dans la distribution des rimes de leurs 53 vers, et ceux que nous fournissent nos Hirmus. En français la preuve sera donnée par la constatation que, dans les hirmus, 4 est souvent interprété e muet par les poètes.

Venons aux autres tons. Les musicalités des rimes donnent dans l'Octave constitutive du Ton musical 1, la suite, (à considérer comme allant du grave à l'aigu, car en tant que rimes elles appartiennent à des hirmus significatifs de Modes): 3, 1, 4, 2, 0, ut, ré, fa, sol, la. — Dans leur opposition ordinale manifestée par les expressions cháng (p'ing) et hiá (p'ing), le ton cháng-p'ing se réfère à la rime initiale de musicalité ut, 3; hiá-p'ing à la rime finale de musicalité la, 0.

Ainsi apparaissent deux limites, p'ing (avec son sens nouveau ²⁾) de "plan, uni, paisible"), — limites entre lesquelles les autres tons, je dirai, "se démènent" ³⁾.

Les expressions cháng-cheng, k'ü-cheng, — "assurgens, erumpens" du P. A. Zottoli —, se réfèrent évidemment aux rimes initiales et finales, et recueillent ce qui n'a pas encore été relevé.

En partageant selon cet exposé les rimes initiales et finales des

1) Elle emporte avec soi une considération qui l'en empêche. Ainsi, pour Aristote, les "species ideales" de Platon. Cfr. par ex. S. Thomas, Comment. in Metaphys., L. 7, lect. 16. — Dans l'éd. de Parme, 1868, Vol. 20, p. 506.

2) L. E. 55. F.

3) L. E. 2. D.

53 hirmus de notre Collection, reconnus par les Chinois, à savoir

Notes	Ut, Ré, Fa, Sol, La
musicalités	3 . 1 . 4 . 2 . 0
Rimes finales	8 . 11 . 19 . 15.
initiales	15 . 8 . 11 . 19.

on a, pour la suite cháng-p'ing, hiá-p'ing, cháng-chang, k'ü-cheng, jôu-cheng, les totalisations:

$$15 . 15 . (11 + 19 =) 30 . (8 + 19 =) 27 . (8 + 11 =) 19;$$

les Chinois comptent actuellement, — comme l'indique aussi le P. A. Zottoli: 15 . 15 . 29 . 30 . 17.

— L'épithète p'ing dans son sens moins ancien de "limite", affectait la musicalité 0, prosodiquement tchai: par confusion des deux sens de p'ing, on eut en 0 une commune prosodique. Allant plus outre, on attribua par erreur à la musicalité 4, limite de la collection des rimes, l'épithète de limite en échelle acoustique, ce qui donna une seconde commune prosodique, et permit aux Chinois de retoucher les moules de leurs quatrains, pour obtenir, ce me semble, un "équilibre" loué dans d'autres phrases que les leurs ¹⁾.

§ 3. — Vers toniques.

Enfin l'Hirmus donna sa vraie valeur dans le vers tonique, et servit à exprimer "Ce langage qui s'entend, qui se parle, qui retentit dans l'âme humaine, l'écho vivant de nos sentiments les plus intimes, la mélodie de nos pensées" ²⁾.

Pour que le vers tonique fasse ainsi parler l'Hirmus, il doit y respecter d'abord la ligne des nuances; — et, puis qu'il s'agit pour l'heure de nous exprimer non avec des notes mais avec des paroles,

1) Cfr Cie. 482, n. 49 et n. 50; — avec (?) L. E. 110, D.

2) De Lamartine, Discours de réception à l'Académie française, — dans l'éd. "Premières méditations poétiques, Farnes et Hachette, 1860", p. 97.

il est convenable que la phrase suive aussi le graphique de l'accent tonique, et qu'elle sectionne ses membres en ayant égard aux accents musicaux au grave ¹⁾ ou à l'aigu de ce graphique, ou encore à une nuance plus forte, ou enfin à une pause métrique, car il convient que le Système musical règle jusqu'à la durée de l'émission des notes d'une mélodie, des paroles d'un vers ²⁾.

C'est, ce me semble, ce que demande au poète qui veut composer, le grammairien Théodose, quand il lui dit: choix fait de l'Hirmus convenable, il faut suivre l'Hirmus pour le nombre des syllabes en veillant à avoir le même accent (la même tension d'accents toniques, — en se conformant au graphique de cet accent), *intus recondens eandem mentem* (par l'observation, tout d'abord, de la ligne des nuances), — *ισοσυλλαβούντα καὶ ὁμοτονούντα τῇ εἰρμῇ καὶ τὸν ἀκόπτον ἀποσώζοντα*.

Les poètes, en suivant ainsi les Hirmus, ont créé leur langue propre qu'apprennent dans leurs poésies ceux qui sont nés poètes; et les Hirmus se reconnaissent encore dans les vers de nos contemporains.

Pour s'en assurer et classer des vers, accordez au poète qu'il a su les "détacher les uns des autres, et les tourner de telle manière qu'ils aient chacun leur sens parfait", selon le précepte du bon Richelet (— son 19^e § —). On compte ensuite, sans élision, toutes les syllabes. On se récite alors le vers, en parcourant des yeux les graphiques de l'accent tonique; le choix se présente bientôt, que

1) J. d'Ortigue, *Dict. de Plain-Chant*, 14. Accent musical: "énergie plus marquée, attachée à une note... en la détachant des autres par une intonation très distincte au grave ou à l'aigu." Suard.

2) Dans le débit du vers cette réglementation métrique est de l'ordre des variations de hauteur acoustique indiquées par le graphique de l'accent tonique: une pure indication à faire sentir sans qu'il puisse s'agir d'estimation chronométrique.

confirme et la bonne diction donnée par la ligne des nuances, et parfois aussi l'observation grammaticale de la musicalité 4¹⁾).

Ainsi ont été classés²⁾ les vers indiqués dans la note 18. Je ne puis reproduire ici tous leurs Hirmus; en ex. je citerai seulement ces vers d'un "chef-d'oeuvre de grâce"³⁾, le Menuet de Verlaine:

Chansons frêles du clavecin,
Notes grêles, fuyant essaim,
Qui s'efface,
Vous êtes un pastel d'autan

i. 4. D. 4 : 0 , 2 4 . 3 0 2 . 1



F Qui : s'a , ni-me . rit un ins , tant

♯. 3. D. 2 , 0 2 , 4



G Et . s'effa , ce .

1) Pour donner des chiffres, la musicalité 4 se rencontre dans la Collection complète: en rimes initiales 9 fois, dans le corps de l'Hirmus 53 fois, et 21 fois comme rime finale. — Les hirmus pour lesquels je n'ai pas indiqué de vers, comptent 4, un total de 7 fois, dont 3 rimes finales. Les vers toniques cités offrent 11 rimes féminines en 4, sur 18 qu'ils pouvaient donner; avec, dans le corps de l'Hirmus, 16 fois sur 40 l's muet, sans compter les *e* non muets, comme *de*, *les*, etc., correspondant à ces musicalités 4.

2) Le classement fait constater qu'il n'y a pas de vers de 3 syllabes. Je l'ai vérifié sur tous les ex. de Lafontaine. — Il n'y a pas non plus ce que nous appelons "effet". Dans le "Songe d'Athalie", "Je le plains de tomber, ..." est un vers tonique de 16 syllabes, s. l. C.; et ce qui suit "En achevant ces mots épouvantables", un autre vers de 11 syllabes s. 2 H.

Le vers tonique monosyllabe apparaît une contradiction dans les termes.

— Les graphiques de l'accent tonique, avec les repos métriques indiqués par les Hirmus qui manifestement convenaient, m'ont donné le fin de la "Ballade à la Lune", me la faisant juger — comme je la rencontrai ensuite dans Veillot (A. Albalat, "Veillot", Pages choisies, Paris, 1906, p. 291) —, "une plaisanterie charmante".

3) R. 128. 23. P. Paul Bernard.

MÉLANGES GÉOGRAPHIQUES ET HISTORIQUES.

MANUSCRIT INÉDIT DU PÈRE A. GAUBIL S.J.

PUBLIÉ AVEC DES NOTES

PAR

HENRI CORDIER. ¹⁾



I.

De la situation des pays de Coconor, Sifan, et Tibet.

Les pays de la Chine qui confinent aux pays de Sifan [西番], Coconor [K'ou-ko-no-r, 庫可諾爾, ou Ts'ing Haï, 青海], et Tibet [圖伯特, T'ou-pe-te; 西藏, Si Tsang] sont très bien connus par la Carte des Jésuites qui ont été par ordre de l'empereur CAMHI [康熙, K'ang Hi] sur ces limites pour faire la carte de la Chine. Divers routiers des Chinois et Tartares, et les connaissances qu'ont données des gens instruits des routes et qui ont été souvent sur les lieux, sont les mémoires sur lesquels la carte du Sifan et de Coconor a été faite par ordre de l'empereur. Ces mémoires ont été examinés par ordre du même prince et il a plusieurs fois envoyé lui même dans le pays pour s'asseurer des distances, et des rhumbs.

1) Nous avons déjà publié deux mémoires inédits du Père Gaubil dans le *T'oung Pao*, Vol. IV, No. 1, et Vol. IX, No. 2. Le travail que nous donnons aujourd'hui est tiré du même recueil manuscrit; il suit le mémoire sur la *Situation du Japon et de la Corée*.

Mes notes sont placées entre [].

Des mathématiciens chinois et des Lamas exercés à observer les rhumbs, à mesurer les distances, et à observer les hauteurs du pôle par des gnomons, ont couru tout le Tibet jusqu'à la montagne Cantisse où est la source du Gange. Ces géographes avoient outre cela des routiers et des cartes donnés par le Grand Lama, ils étoient accompagnés de gens qui connoissoient ce pays. L'empereur *Cam hi* fit examiner la carte faite par ces géographes, et les principes sur lesquels elle avoit été faite, on la corrigea en beaucoup de points et l'an 1726 le P. RÈGIS¹⁾ l'envoya en France. Il ne faut pas regarder cette carte comme ayant l'exactitude des cartes de la Chine et de la Tartarie, mais c'est la meilleure qu'on aye eu jusqu'ici, et on sait au moins le nom des villes, des rivières, des grands lacs, avec beaucoup de distances.

Lassa n'est qu'un gros village, médiocrement peuplé, sans portes, ni murailles. C'est le principal lieu du Tibet, et comme la capitale du pays, à une lieue au Nord de Lassa est *Poutala*, nom de la montagne où est la pagode magnifique qui est la résidence du Grand Lama.

Le P. KIRKER²⁾ dans sa *China illustrata* rapporte que la hauteur du pôle de Lassa fut observée de 29° 6' par les RR. PP. GRUBER³⁾ et DORVILLE⁴⁾, Jésuites. Ces deux Pères n'ont pas fait connaître la distance de Lassa à un lieu connu. L'empereur *Cam hi* a fait mesurer plusieurs fois le chemin de Lassa à plusieurs lieux de la Chine. Je vais mettre ici ces lieux avec leur latitude et longitude occidentale par rapport à *Peking*. La latitude et longitude

1) [Jean-Baptiste Régis 雷孝思, *Lei Hiao-se*, né à Bourg d'Olivet (Provence) le 29 janvier 1664; † à Pe king, le 24 nov. 1738.]

2) [Adamasse Kircher, né à Ghysen, près Fulde, le 11 mai 1602; † à Rome, le 27 nov. 1680.]

3) [Jean Gruber, né à Ljuz, le 28 oct. 1623; † à Florence en 1665.]

4) [Albert Dorville, né à Bruxelles en 1622; † à Agra, le 2 avril 1682.]

sont tirées de la carte des Jésuites; j'ai vu moy-même dans les journaux tartares les distances que je rapporte:

VILLES.	LATIT.	LONGIT.	DISTANCE DE LASSA.
Si ning dans le Chen-sy	36° 39'	14° 43'	3500 Lis.
Ta tsien Lou dans le Se° teh'ouan	30° 10'	14° 40'	3700 Lis.
Li kiang fou dans le Yun nan	26° 52'	16° 0'	3600 Lis.

Ces Lis sont de ceux
dont 900 sont un
degré de latitude.

Dans ces journaux où sont ces distances on ne marque pas les airs de vent, ni les détours dans le pays qui est fort montagneux, ainsi en vertu de ces journaux et de ces distances, il est difficile de conclure la longitude de Lassa.

Un des mandarins qui firent la carte du Tibet, et instruit par le Père JARTOUX¹⁾ sur la manière de réduire les routes, et sur le nombre des lieues qu'il faut pour un degré de longitude dans chaque degré de latitude, fit à part un journal, sur lequel il dressa une carte corrigée par le P. Jartoux, et réduisant ses routes, et les corrigeant par quelques latitudes observées le mieux qu'il put, il trouva que Lassa étoit près de 12° plus ouest que *Si ning* [西寧]. Il m'a assuré qu'au lieu de 3700 lis, il falloit marquer 3000 lis de Lassa à *Ta tsien lou* [打箭爐]. Il a ajouté qu'il falloit diminuer cette distance de plus de 600 lis à cause des montagnes et des détours; et sur plusieurs choses qu'il m'a dites, et que j'ai encore apprises d'ailleurs, j'estimerois Lassa entre 24° et 25°, à l'Ouest de *Peking*, et à près de 10° ouest de *Ta tsien lou*.

Pour ce qui est du cours du Gange, et des villes marquées aux environs, les Chinois et les Tartares n'en ont rien vu par eux-mêmes,

1) [Pierre JARTOUX, 杜德美, *Tou Tsu-mei*, né à Embrun, le 2 août 1662; † à *Pe king*, le 30 nov. 1720.]

ils l'apprirent des Lamas et des gens du pays aux environs du mont Cantisse. J'ai tiré la position d'Agra de la *Connoissance des Temps* 1722, et celle de Cachemire est tirée de sa position par rapport à Agra, marquée dans plusieurs cartes.

II.

De la Situation des pays marqués dans la Carte Entre Hami, l'Irtis, le Tibet, et la Mer Caspienne.

En 1711, les PP. JANTOUX et FRIDELLI ¹⁾, Jésuites, et le P. BONJOUR, Augustin, furent à la ville de Hami. Ils y observèrent la hauteur du pôle de $42^{\circ} 53' 20''$ et ils estimèrent la longitude de $22^{\circ} 32'$ ouest de Peking ²⁾.

Sur la fin du siècle passé, l'empereur CAM HI envoya des Grands de sa cour au Roy des Eleuthes dont le campement étoit à Harcas sur la rivière Ili. Ces Grands firent mesurer le chemin depuis *Kia yu koan* ³⁾ jusqu'à Harcas, à chaque journée, ils marquoient le rhumb de vent du lieu d'où ils partoient avec le lieu où ils arrivoient. Ils allèrent à Hami, de là à Turfan, de Turfan ils allèrent à Manas, à Kor, de là à la rivière Ili qu'ils cotoyèrent longtemps, et se rendirent à Harcas. Ils revinrent à peu près par le même chemin, mesurant chaque journée, et observant le rhumb de vent. Il y a plus de 2 ans que le P. PARRÉNIN ⁴⁾ eut la bonté de me traduire ce routier. Je pris pour mon point connu *Kia yu koan* ⁵⁾ et calculant chaque journée, je déterminay la latitude et la longitude

1) [*Jesuit-Ehrenbert FRIDELLI*, 費隱, *Fei Yin*, né à Linz (Autriche), le 11 mars 1673; † à Pe King, le 4 juin 1743.]

2) On verra plus bas les éléments de cette observation et de cette estime.

3) C'est le bout occidental de la Grande Muraille dans le Cheuy. [嘉峪關, *Kia yu kouan*.]

4) [*Dominique PARRÉNIN*, 巴多明, *Pa To-ming*, né au Rossey, diocèse de Beaune, le 1 sept. 1665, † 29 sept. 1741.]

5) Latitude $32^{\circ} 49' 30''$; longit. $17^{\circ} 56'$ occ.

de Hami et autres lieux jusques à Harcas. Je comparay mon résultat pour Hami avec l'estime et l'observation des PP. BONJOUR, FRIDELLI et JARTOUX. Il y eut quelque correction à faire à ma détermination pour Hamj, et corrigeant à proportion mon résultat pour Turfan, Manas, Kor, Harcas¹⁾, je déterminai la situation de ces lieux telle qu'en la voit sur la carte. Les pays entre la ville de *Cha Tobeou*, le Lac Lop, et le Tibet sont des campagnes presque toutes désertes et arides. L'empereur CAM HI a fait mesurer les distances de tous ces lieux et leur situation par rapport à Hami, au Chen si & a fait connoître leur situation par rapport à *Peking*. On a fait des journaux en tartare de tous ces différents voyages; je ne les ai pas vus, mais j'ai vu la carte que CAM HI fit faire sur les mémoires de ceux qu'il avoit envoyés, et examinant sur cette carte le rapport de ces lieux avec ceux qui m'étoient connus d'ailleurs, je les ai placés sur la carte.

L'empereur CAM HI voulut encore connoître les pays entre le Tibet et Irguen, entre Irguen et Casgar, ou Cachagar, entre Casgar et Anguien jusqu'à la rivière Sir, les pays le long de la rivière qui passe à Irguen jusqu'au Lac Lop, ceux qui sont le long de la rivière *Haitou*, et les environs de la ville Acsou. Dans tous ces différents pays, il envoya des gens de confiance qui observoient les Rhumbs, en mesuroient les distances, et je ne saurois dire pourquoi ils ne mirent pas Casgar à la hauteur de 40° comme le marque le Catalogue de M. BOUILLAUD²⁾ tiré des Tables Persiques. Peut être quelque jésuite fit déterminer à s'en tenir à la hauteur des cartes de M. DE LISLE³⁾. Je n'ay pas voulu changer cette détermination, quoique je sois porté à mettre la hauteur de Bouillaud.

Pour ce qui regarde la longitude de Casgar, je l'ay déterminée

1) Latitude estimée de Harcas 46° 20'; Longit. 37° ouest de Peking.

2) [Jérôme BOUILLAUD, né à Loudun en 1695; † à Paris, en 1694.]

3) [Joseph Nicolas DE LISLE, né à Paris, le 4 avril 1688; † à Paris, 11 sept. 1768.]

de 34° ouest de *Peking*, parce que examinant les différentes routes tenues par les gens envoyés par CAM HI, j'ai trouvé que Casgar étoit nord et sud avec la jonction de la rivière *Ili* et une autre rivière qui vient du côté de *Kor*; or l'estime corrigée du chemin des Grands envoyés par CAM HI au Roy des Eleuthes, représentoit cette jonction à 34° ouest de *Peking*. Cette longitude de Casgar se trouve assez conforme à celle de Mr. DE LISLE dans sa carte de 1705. Selon ce qui résulte des distances et Rhumbs des gens envoyés par Cam hi à Casgar, il est près de 37° plus ouest que *Peking*.

Les Mémoires de l'Académie de 1699 rapportent plusieurs observations des Jésuites. On y voit que le P. DE BÈZE ¹⁾ a observé la latitude d'Erzeron de $39^{\circ} 56' 35''$. La longitude de $68^{\circ} 45' 45''$ tirant de la $22^{\circ} 30'$ dont on supposoit alors la longitude de Paris, on aura $46^{\circ} 15' 45''$ dont Paris sera plus occidental qu'Erzeron. *Peking* selon la *Connoissance des Temps* est $114^{\circ} 16' 30''$ plus Est que Paris, ainsi Erzeron sera plus occidental que *Peking* de $68^{\circ} 0' 45''$.

La latitude du bord austral et oriental de la mer Caspienne est à la latitude que lui donne la carte de la mer Caspienne envoyée par le feu czar Pierre ALEXIS à l'Académie. Asterabad ou Astrabad est vers ce bout oriental et austral de la mer, or selon Nassiredin la ville d'Arzengan qui est 2° plus ouest que Erzeron est plus de 15° ouest que la ville d'Astrabad ainsi la ville d'Erzeron sera au moins plus occidentale qu'Astrabad de 13° . Selon les meilleures cartes récentes Erzeron est au moins $14^{\circ} 30'$ plus ouest qu'Astrabad. Si de $68^{\circ} 0' 45''$ on ôte $14^{\circ} 30'$, on aura $63^{\circ} 30' 45''$ dont le bord austral et oriental de la mer Caspienne sera plus occidental que *Peking*.

Selon les Tables Persiques dont BOUILLAUD a donné le Catalogue, Samarcande est 9° plus Est que Astrabad, et sa hauteur du pôle est 40° . Bogar est $1^{\circ} 30'$ plus ouest que Samarcande et sa hauteur

1) [Claude DE BÈZE, † au Bengale en janvier 1695.]

du pôle est 39° . La latitude de Nitchabour est $36^{\circ} 20'$ et $3^{\circ} 10'$ Est d'Astrabad. La latitude de Balk est $36^{\circ} 40'$ et $2^{\circ} 40'$ Est de Samarcand.

Sur la carte on doit corriger les situations de Nitchabour, de Balk, et conserver la situation de Termod par rapport à Balk. On doit mettre Samarkande à la latitude de 40° .

La ville d'Otrar est marquée comme le marque M. D'HERBELOT ¹⁾ au titre *Farab* qui est le même que *Otrar* et à cet article Otrar il y a faute d'écriture dans le nombre qui exprime la latitude. Khogend ou Khogenda a aussi par rapport à Samarcand la même situation que lui donne M. D'HERBELOT d'après les anciens Arabes ou Persans.

La rivière *Sir* est ainsi appelée ici par les Tartares; c'est le fleuve *Sihun*. Les villes de Sairem, Soureng, Taskend, Yasou, sont marquées par rapport à *Anguien*, et Samarcand, comme des officiers calmuques indiquèrent ici il y a plus de 3 ans. C'est d'eux qu'on sut ici que la rivière *Sir* ne se jettoit pas dans la mer Caspienne, mais dans un lac qu'ils appellèrent *Tarikeng*, c'est d'eux qu'on sut qu'au Sud du lac *Tarikeng* étoit une ville qu'ils appellèrent *Ambala Capsae*, on apprit d'eux beaucoup de choses sur les pays au Nord et à l'Ouest de la mer Caspienne et sur ceux qui sont entre l'Irtis, et l'Ili, et entre l'Ili et le *Sir*. Le P. Réus sut soin d'écrire en France ce qu'on sut d'eux sur la géographie, et presque tout ce qu'ils dirent s'est trouvé depuis confirmé. Il paroît cependant que le lac *Tarikeng* doit être mis pour le moins un degré plus Nord et un degré et $30'$ plus Ouest.

On a mis Astracan et le Nord de la mer Caspienne conformément à la carte dont j'ay parlé pour la latitude, la longitude est mise suivant leur situation particulière par rapport à Astrabad dont on a déterminé la longitude en conséquence de l'observation faite à Erzeron par le P. de Bèze.

1) *Bibl. orientale*.

On justifiera plus bas la situation que la carte donne à la source de la rivière Irtis. Les latitudes de Tobol, de Tara, et du lac Tapsou nor sont prises des mémoires donnés ici l'an passé par des Russiens. Leurs longitudes ont été mises suivant le rapport que ces places ont avec d'autres lieux dont on a dans la carte déterminé la longitude.

Les Tables Persiques de Bouillaud mettent Casgar plus Est que Samarcand de $6^{\circ} 40'$ et selon ces tables la latitude de Casgar est de 40° . M. D'HERBELLOT parle d'un Casgar à 44° de latitude et à 6° ou 7° Est de Samarcand.

La ville appelée aujourd'hui Casgar ou Cachegar est très ancienne; elle étoit florissante du temps des *Yuen*; il est certain qu'elle est plus Sud que la ville de Hami et je ne doute pas que le Casgar marqué dans BOUILLAUD ne soit celui de la carte. Celui de M. D'HERBELLOT est selon les apparences le même. Il est sûr que la source du Sir est plus nord et plus ouest que le Casgar de la carte. On a été de cette source au campement du Roy des Eleuthes à Harcas et on a compté plus de 1000 lis, c'est-à-dire plus de 100 lieues au Nord à 20 au degré. En conséquence de la position que donnent les Tables Persiques à Casgar, je crois qu'il faut avancer sur la carte vers l'Ouest, Casgar et les villes voisines, la source du Sir avec Anguien, cette correction doit être d'un degré et demi, et peut être de 2° .

REMARQUES.

1. — Selon les auteurs orientaux que suit M. D'HERBELLOT dans sa *Bibliothèque orientale*, Samarcand peut se supposer 10° plus Est qu'Astrabad et Casgar, 7° plus est que Samarcand. Selon le même auteur Erzeron, ou Arzeron, est 12° au moins plus ouest qu'Astrabad. Ainsi on peut supposer selon les auteurs orientaux Casgar plus Est qu'Erzeron de 20° au moins. Si de $68^{\circ} 0' 45''$ longitude observée

d'Erzeron, on ôte 29° , reste $39^{\circ} 0' 45''$ dont Casgar seroit plus Ouest que Peking. La longitude que *Nassiredin* donne à *Arzengan* et à Astrabad donne au moins 13° de différence en longitude entre Erzeron et Astrabad, et les meilleures cartes donnent cette différence au moins de $14^{\circ} 30'$.

2. — Dans la carte de la mer Caspienne envoyée par le czar à l'Académie, on voit écrit que Astracan est selon M. De LISLE plus oriental que Paris de 67° . Selon cela Astracan ne seroit plus occidental que Peking que de $47^{\circ} 16' 30''$. Dans les cartes antérieures de M. De Lisle, Astracan est plus ouest que Peking de $64^{\circ} 16' 30''$. On n'a pas encore vu ici de raison de cette différence. En attendant des éclaircissements, on s'en tient à l'observation du P. de Beze à Erzeron et à l'estime corrigée de la position de Casgar.

3. — Les Tables Persiques de M. BOUILLAUD ont comme on sait plusieurs fautes dans la position des lieux. On peut donc si on juge plus à propos choisir les positions rapportées dans M. D'Herbelot¹⁾ d'après les géographes orientaux.

Voici les positions selon M. D'Herbelot:

NOM DES LIEUX.	LATITUDE.	DIFFÉRENCE EN LONGITUDE.	
Arzeron	$39^{\circ} 40'$		
Astarabad	$36^{\circ} 50'$	$12^{\circ} 58'$	je prends dans M. D'Herbelot la plus grande des longitudes qu'il donne à Bogar, Samarcand, et Casgar.
Nitchabour	$36^{\circ} 21'$	$2^{\circ} 32'$	
Bogar	$39^{\circ} 30'$	$5^{\circ} 20'$	
Samarcand	$40^{\circ} 0'$	$1^{\circ} 40'$	j'ai déjà dit qu'au lieu de 44° , il faut 40° .
Balk	$36^{\circ} 41'$	$1^{\circ} 30'$	
Casgar	$44^{\circ} 0'$	$5^{\circ} 30'$	

Si on joint toutes ces différences on aura $29^{\circ} 30'$ dont Casgar sera plus oriental qu'Erzeron. Selon cette détermination, Casgar seroit plus ouest que Peking de $38^{\circ} 30' 45''$. Cette détermination

1) *Bibl. orientale.*

est à $1^{\circ} 30'$ près conforme à la détermination qui résulte de l'estime du chemin que firent les Chinois et Tartares envoyés par l'empereur CAM HI à Irguen, à Casgar, à Anguien.

4. — Nassiredin ¹⁾ place la ville d'Arzeagan à 74° de longitude et Casgar à $106^{\circ} 30'$ différence $32^{\circ} 30'$. Arzeagan est 2° plus ouest qu'Erzeron, donc selon Nassiredin Casgar seroit plus est qu'Erzeron de $30^{\circ} 30'$ ²⁾. Nassiredin met Casgar à la latitude de 44° et il est en cela suivi par d'autres géographes orientaux. Dès le 8^e siècle l'histoire chinoise parle d'un grand nombre de hordes puissantes des *Toukiue*, ou Turcq sur la rivière *Ili*, et peut être le long de cette rivière il y avoit alors une ville appelée aussi Casgar qui étoit comme la capitale du Turquestan.

5. — *Sou tcheou* [蘇州] à l'extrémité occidentale du Chen sy a été observé par plusieurs jésuites ³⁾ à la latitude de $39^{\circ} 45' 20''$ et sa longitude a été déterminée par les triangles de $17^{\circ} 30'$ ou $35'$ à ouest de Peking. Cette ville a été autrefois fort fréquentée par les peuples de la Transoxane, Korassan, Perse et autres. J'ay vu dans un mémoire de géographie que les mathématiciens orientaux mettoient 28° de différence de longitude entre *Sou tcheou* et Samarkande. Casgar est 7° à Est de Samarcand, il sera donc 21° Ouest de *Sou tcheou*, ajoutés $17^{\circ} 30'$ on aura $38^{\circ} 30'$ dont Casgar sera plus Ouest que Peking. Par tout ce que je viens de dire il paroît qu'à un ou 2 degrés près la longitude de Casgar par rapport à Peking est certaine.

6. — Les pays entre le Chen si et la mer Caspienne ont été connus de tout temps aux Chinois. Sur tous ces différents pays on voit en chinois d'amples mémoires depuis plus de 1800 ans. Dans ces mémoires on voit des choses très curieuses sur le gouvernement.

1) Il étoit astronome de Holagou frère de Chihlay ou Hongilay.

2) Selon cela Casgar seroit plus ouest de Peking de $37^{\circ} 30' 45''$.

3) Les PP. Rémi, Jartoux et autres.

les mœurs, les guerres, la Religion, les monnoyes, la nature du terrain des provinces du Korassan, Perse, Transoxane et Turkestan. On y distingue aisément les endroits principaux, on y trouve la distance de beaucoup de villes, tant entre elles, qu'entre la ville de Si ngan fou¹⁾ de Ta t'ong fou²⁾ et l'extrémité occidentale de la Grande Muraille, mais en vertu de ces distances marquées on ne sauroit bien déterminer ni la situation des lieux entre eux, ni leur latitude et longitude, ni leur distance et situation par rapport au Chen sy. Pour profiter de ces mémoires informes et confus de géographie chinoise, il faut employer les connoissances certaines qu'ont données ces observations des Jésuites dans le Chen sy, et à Hami celles que donne l'estime du chemin des Chinois à Harcas, à Irguen, et à Casgar, celles que donne la géographie orientale, et les observations des Européens près du Pont Euxin, en Perse & jointes à divers voyages vers la mer Caspienne. Avec ces connoissances jointes à quelque teinture de l'histoire des Perses, des Turcq, et des Mogols, il est fort facile de débrouiller ce que disent les livres chinois sur les pays entre le Chensy et la Mer Caspienne. Par le morceau que le R.P. DESTRECOLLES³⁾ a traité sur les médailles, on peut aisément juger de l'utilité qu'on peut retirer de ce que disent les Chinois. L'équivoque de beaucoup de caractères chinois, jointe au défaut d'une connoissance exacte de la géographie des pays orientaux a fait faire dans cet ouvrage quelques fautes de géographie. L'ouvrage ne laisse pas d'être très bon et curieux, et il est bien facile de corriger les fautes de géographie. Quand on aura reçu d'Europe plusieurs livres qui manquent ici, et qu'on aura achevé de lire plusieurs mémoires chinois qu'on a en assés bon nombre, on fera

1) [西安] Capitale du Chen sy.

2) [大同] ville du Chan sy.

3) [François-Xavier] DESTRECOLLES, 殷弘緒, *la Hong-vin*, né à Lyon, 25 fév. 1663, † 2 juillet 1741, à Pe king.]

part de ce que disent les livres d'histoire et de géographie chinoise sur les pays occidentaux, ce sera un supplément considérable aux histoires qu'on a en Europe fort défectueuses en beaucoup d'endroits sur ce qui regarde les peuples de Tartarie, du Turkestan, de la Transoxane, du Khorassan, &c. L'histoire que j'envoie sur les Mongon en est une bonne preuve.

III.

De la situation de plusieurs lieux de Tartarie qui sont dans la carte, et où les Jésuites qui ont fait la carte n'ont pas été.

J'ai déjà parlé des pays entre la Mer Orientale, Tondon, et l'embouchure du fleuve *He long Kiang* [黑龍江].

C'est sur le rapport des Tartares qui ont été souvent vers la rivière Tongour, et les pays entre la rivière Outi, le fleuve Sahalien oula et les environs de Yacsa et de Niptchon [尼布楚 Niptchon, Nertchinsk] que les Jésuites ont déterminé la situation de ces pays.

En 1711, les PP. JANTOUX, FRIDELLI et BONJOUR furent jusqu'aux embouchures des rivières Egué¹⁾, et Iben²⁾, ils cotoyèrent le Kerlon, passèrent assés près de la source de ce fleuve, allèrent à Hami, et passèrent par le pays où est le mont Altay, et la petite rivière Tongouric. On a su d'un grand nombre des Tartares et Russiens la distance de Silinga et du lac Baical aux embouchures des rivières Iben, et Egué.

La rivière appelé *Kem* est la Jenisés³⁾ comme je l'ay su moy-même des gens de ce pays là qui avoient souvent été le long des rivières Egué, Oby, Kem, Silinga, &c. et la position qu'on voit ici des lacs Housoucol, Sanguin, Kerkis des sources des rivières Kem,

1) dans la rivière *Silinga*.

2) dans la rivière *Orgoun*.

3) Il y a deux ans que j'écrivis que le *Kem* étoit l'*Oby*, dès l'an passé, j'avertis de cette erreur.

et Oby¹⁾, et Ergou est conforme au rapport que j'ai entendu moi-même faire plusieurs fois à ces gens là.

On a eu soin de s'informer de la situation de la ville de *Tomscoy*, et on a conclu qu'elle étoit beaucoup plus australe que *Tara*. Je tachay l'an passé de m'asseurer de sa distance à la source du fleuve Oby, et les Russiens venus ici à la suite de M^r le Comte Sava, ambassadeur de la Czarine, n'ayant pas su au juste me dire la latitude de cette ville, je m'en suis tenu à la latitude qui est marquée dans la carte de Sibérie qu'on voit à la tête de la Relation de M. Lebrun.

Je n'ai pas cru devoir mettre dans la carte les pays qui sont au Nord de la rivière *Outi*²⁾ et du lac Baical, non plus que ceux qui sont à l'ouest de ce lac, outre que leur connoissance n'est pas nécessaire pour l'intelligence de l'histoire que j'envoie, je ne saurois donner aucune nouvelle lumière sur ces pays. J'espère au contraire que vous m'instruirez là-dessus dès-lors que vous saurez vous-même ce qu'auront découvert et observé les Russiens dans les pays de Jesso qu'ils nomment *Campsatslia*, le long de la mer boréale au Nord de la rivière *Outi*, et dans toute la Sibérie.

IV.

Des Limites des Russiens et des Chinois.

Voyez les montagnes au Sud de la rivière Tongour qui se jette dans la Mer orientale, suivez ces montagnes jusqu'à la source de la rivière appelée Grande *Kerbitchi*, les pays qui sont au Sud jusqu'à la Mer orientale appartiennent à l'Empereur de la Chine. Les pays au Nord jusqu'à la mer boréale sont aux Russiens. Ces pays entre la rivière *Outi* et cette chaîne des montagnes sont indéterminés et

1) les Tartares appellent ici l'Oby, *Opon*.

2) C'est la rivière *Outi* qui se décharge dans la Mer orientale.

on a encore remis à un autre temps pour décider à qui ces pays appartiendront. Voilà les limites orientales. Voici les limites occidentales.

Vous voyez au Nord du lac *Coulon*¹⁾ une montagne. De cette montagne tirez une ligne au passage d'une montagne appelée *Honin Tabahan* au nord du lac Housoukoul. Cette ligne doit passer quelques lieues au sud de la ville de Silinga. Continuez cette ligne jusqu'à *Chabina Tabahan* en passant entre la rivière *Kem* et le lac Housoukoul. Tous les pays au nord de cette ligne sont aux Russiens, tous les pays au sud de cette ligne sont à l'Empereur de la Chine.

V.

Des Limites du Roy des Eleuthes.

De *Chabina Tabahan* tirez une ligne à l'ouest du lac Parcoul passant par la source de la rivière Irtis. Les pays du Roy des Eleuthes sont à l'ouest de cette ligne. Tout le Tibet jusqu'à la source du Gange est aujourd'hui censé de l'empire de la Chine aussi bien que le pays de Coconor. *Hami* [Hami ou Ho-mi t'ing, 哈密廳], *Cha tcheou* [沙州] en sont aussi, mais le Roy des Eleuthes prétend que c'est à lui. Du reste les vastes pays qui sont entre le Tibet et les environs des villes de Sibérie appelées Tara, et Tomscoj en passant par Casgar, Tolon, et l'ouest du lac Palkasi sont au Roy des Eleuthes.

Entre le lac Palkasi et la mer Caspienne il y a des princes tartares dont un des plus puissans est le prince de Caracalpac. Des officiers calmuques venus ici il y a plus de 4 ans dirent que du lac Palkasi à la mer Caspienne, il y avoit au moins 1600 lis ou 160 lieues de 20 au degré de latitude. Ils ajoutoient qu'ils avoient fait plusieurs fois le chemin. C'est d'eux qu'on sait que du lac Palkasi à la ville de Tara, on alloit presque toujours au Nord, et la

1) c'est le lac où le Kerlon se décharge. [Le Keroulen se déverse dans le Dalaï Nor.]

distance qu'ils assignoient s'accorde assés avec la latitude de Tara donnée ici par les Russiens, et avec la latitude du lac Palkasi conclas du voyage des Grands envoyés par CAM-HI au Roy des Eleuthes. Ce que ces Calmuques dirent de la distance de Tara à Tobol, et de Tara au lac Tapson n'en s'est trouvé conforme à ce qu'en ont rapporté ici les Russiens.

VI.

Situation de la Grande Muraille.

L'an 1708, les PP. BOUYER ¹⁾, RÉCITS et JARROUX, Jésuites, eurent ordre de l'Empereur CAMHI de faire la carte de la Grande Muraille. Ces 3 Pères prirent un quart de cercle de 2 pieds 2 pouces de rayon. On eut souvent soin de le vérifier, et on trouva constamment qu'il représentoit les hauteurs trop grandes d'une minute. Ils avoient des grandes boussoles, plusieurs autres instruments, une pendule et autres choses propres à l'exécution des ordres de l'Empereur. Avec des cordes divisées exactement, ils mesurèrent exactement le chemin depuis Peking jusqu'à *Vang Hai leou*. Dans ce chemin ils prirent souvent par observation la hauteur méridienne du soleil, ils observoient à tout moment le Rhumb et eurent grand soin d'observer la variation et la déclinaison de l'aiguille.

Le 18 Juin, la hauteur du bord sup^r du soleil fut observée à midi. Elle fut trouvée de 73° 43'. L'observation fut faite à *Chan Hai Kouan* [山海關] fort près du bout oriental de la Grande Muraille.

La déclinaison de l'aiguille fut observée de 2° du nord vers l'ouest; les routes donnèrent 482 lis ²⁾ de distance à Peking; selon

1) J. Joachim Bouyer, 白晉 ²² *Pe Tois*, né le 18 juillet 1656; † à Pe king, le 23 juin 1732.]

2) On choisit les lis dont 200 font un degré de latitude. Les Jésuites qui ont fait la carte ont donné raison de cette mesure que je supposeray désormais connue.

l'estime, on se trouvoit vers le 40° de latitude, et à 3° quelques minutes à l'orient de *Peking*. Il étoit essentiel de bien s'assurer de la position du lieu; c'est pour cela qu'on prit de grandes précautions dans la mesure du chemin, dans l'observation du rhumb, et de la déclinaison de l'aiguille. On fut fort attentif à l'observation de la hauteur méridienne du limbe sup^r du soleil.

Haut du limbe $73^{\circ} 49'$, instrument et réfraction, $1' 17''$, donc vraie hauteur $73^{\circ} 41' 43''$. Demi diam. du \odot $15' 49''$, donc vraie hauteur du centre $73^{\circ} 25' 54''$. Déclinaison boréale du \odot $23^{\circ} 26' 45''$, donc hauteur de l'équateur $49^{\circ} 59' 9''$. Ainsi hauteur du pôle $40^{\circ} 0' 51''$. Le 20^e Juin on fût à *Vang Hai leou*, c'est un boulevard bâti dans la mer. Il est à dix lis de *Chan Hai koan* un peu à l'Est, et un peu au Sud. On détermina sa hauteur du pôle de $40^{\circ} 0' 10''$. On détermina la longitude de *Chan Hai koan* de $3^{\circ} 9'$ à Est de *Peking*.

Le 20, le 22, et le 25 Juin on observa aussi la latitude de plusieurs lieux entre *Chan Hai koan* et un passage important appelé *Hi fong k'ou* dans la Grande Muraille. L'observation du limbe supr. du \odot donna pour hauteur du pôle de *Hi fong k'ou* $40^{\circ} 26' 0''$. L'observation fut faite le 26 Juin. En réduisant les routes, et les corrigeant par l'observation immédiate des hauteurs du pôle on se trouva $1^{\circ} 13'$ plus Ouest que *Chan Hai koan*, c'est-à-dire $1^{\circ} 56'$ plus Est que *Peking*.

Le 29 Juin, les 3 Jésuites, missionnaires, se trouvèrent à *Thang taen*. Il est un peu au Sud de la Grande Muraille. C'est un peu à l'Est de la sépulture impériale du grand père et du père de l'Empereur d'aujourd'hui. Cette sépulture est magnifique et est dans une grande brèche de la Grande Muraille. À *Thang taen*, il y a des bains magnifiques. La hauteur du limbe supr. y fut de $73^{\circ} 26' 10''$. On en conclut la hauteur du pôle de $40^{\circ} 15' 20''$ et la longitude fut estimée de $1^{\circ} 14'$ Est de *Peking*.

Le 6^e Juillet 1708, on observa à *Kou pe k'cou*¹⁾, poste important de la Grande Muraille, la hauteur méridienne du bord sup. du ☉. Elle fut de 72° 21' 10". On en conclut la latitude du pôle de 40° 43' 15". On calcula les distances, et les routes faites depuis *Chan Hai koan* et on se trouva à 2° 26' ouest de *Chan Hai koan*. On calcula les routes faites depuis *Tang tsuen*, on s'en trouva à 30 ou 31' à ouest. On détermina la longitude de *Kou pe k'cou* de 43' à Est de *Peking*. On trouva que de *Kou pe k'cou* [古北口] à *Chan Hai koan*, il y avoit en droiture 450 lis 3 cordes. Dix cordes font un li et 200 lis sont un degré de latitude.

Par quelques hauteurs du pôle observées aux environs de *Sse Hai k'cou*, on détermina la latitude de ce lieu de 40° 35' et quelques secondes, et on estima qu'on étoit nord et sud avec *Peking*. Cette estime étoit conforme à plusieurs voyages que le P. GRUBILLON²⁾ avoit faits de *Peking* aux environs de ce poste de la Grande Muraille, et cette position à l'égard de *Peking* a été depuis confirmée et on doit regarder *Sse Hai k'cou* comme un point fixe de longitude par rapport aux postes orientaux et occidentaux de la Grande Muraille. La carte de la Chine et de la Tartarie a *Peking* pour 1^{er} méridien, et il paroît certain que *Sse Hai k'cou* et *Peking* sont dans le même méridien.

Le poste de *Tou che k'cou* est le plus boréal de la Grande Muraille. Les PP. BOUVIER, RÉGIS et JASTOUX auroient bien voulu y faire une observation immédiate de latitude, le temps ne leur permit pas. Ils observèrent la hauteur du pôle près de ce poste à l'est et à l'ouest. La meilleure de ces observations fut celle qu'ils firent du limbe sup. du ☉ à *Cung-tse Pou* le 31 Juillet 1708. La hauteur méridienne du limbe fut de 67° 24', les corrections étant faites.

1) La décliv. de l'aiguille fut observée de 1° 40' 42" du Nord vers l'Ouest.

2) [Jean François GRUBILLON, 張誠, *Tchang Tek'eng*, né à Verdun, le 21 janvier ou le 11 juin 1684, † à Pe king, le 22 mars 1707.]

La vraie hauteur du centre fut de $67^{\circ} 6' 43''$ déclin. du \odot $18^{\circ} 20' 7''$ donc hauteur de l'équateur $48^{\circ} 46' 36''$ et du pôle $41^{\circ} 18' 24''$. Le peu de distance, et mesurée de là à *Tou che k'ou* fit déterminer sa latitude de $41^{\circ} 19' 20''$, et sa longitude de $42'$ à ouest de *Peking*. *Tching ning pou* fut observé à la hauteur de $41^{\circ} 0' 0''$, et on le conclut $1'$ ou $2'$ plus ouest que *Tou che k'ou*.

Le 4^e aout 1708, on observa à *Tchang kia k'ou* la hauteur du limbe supr. du \odot de $66^{\circ} 43' 30''$. Les 3 PP. en conclurent une hauteur du pôle de $40^{\circ} 54' 15''$; ils corrigèrent l'estime que les routes donnaient de sa longitude il y eut très peu de correction à faire et *Tchang kia k'ou* [張家口 *Tchang kia k'ou* ou *Kalgan*] fut déterminé à $1^{\circ} 31'$ ouest de *Peking*. Par une observation que le P. GERBILLON fit en 1697 à 5 lis au sud de *Tchang kia k'ou*, il détermina sa latitude de $40^{\circ} 53'$ et sa longitude de $1^{\circ} 40'$ ou $44'$ ouest de *Peking*.

Le 13^e aout 1708, on observa la hauteur du pôle à *Cha hou k'ou*. Elle fut de $40^{\circ} 19' 30''$ et on l'estima à $4^{\circ} 10'$ ouest de *Peking*. Le P. GERBILLON en 1697 observa aussi la latitude de $40^{\circ} 20'$ et il l'estima à $4^{\circ} 12'$ ou $15'$ ouest de *Peking*.

Près de *Sue Hai k'ou* les PP. avaient marqué la position du commencement d'une muraille intérieure, ils voulurent marquer la situation de la fin de cette muraille intérieure. Ils la trouvèrent dans le Chanzi à $39^{\circ} 37'$ ou $38'$ de latitude, et à $4^{\circ} 50'$ ouest de *Peking*. Ils suivirent la Grande Muraille et à *Chin mou hien* [神木], ville du Chensy, ils observèrent une latitude de $38^{\circ} 55' 20''$ et estimèrent la longitude de $6^{\circ} 25'$ à ouest de *Peking*. C'est dans cet endroit que le R. P. BOUYER s'étant trouvé mal, eut devoir retourner à *Peking*. Ses 2 compagnons privés d'un si grand secours résolurent de redoubler leurs efforts pour suppléer au défaut de ce secours. Ils firent un nouvel examen de leurs instruments et tâchèrent de bien s'assurer du point de *Chin mou hien*. Ils mesurèrent

196 lis le long de la Grande Muraille jusqu'à *Yu lin ouey*, et observèrent la latitude de cette forteresse de $38^{\circ} 15' 8''$ et examinant les divers rhumbs de vent depuis *Chin mou hien*, ils déterminèrent *Yu lin* plus occidental de $42'$.

A *Tsing ping pou* on observa une latitude de $37^{\circ} 42' 40''$.

A *Hoa ma che* la latitude fut de $37^{\circ} 52' 45''$. *Ning hia* est une des plus importantes et des plus considérables villes qui sont le long de la Grande Muraille. Le 10^{bre} 1708, la hauteur méridienne du bord sup. du ☉ fut de $56^{\circ} 45'$. Les PP. RÉGIS et JARTOUX conclurent une hauteur du pôle de $38^{\circ} 32' 40''$. Le calcul des routes donna la longitude de *Ninghia* [甯夏] de $10^{\circ} 25'$ à ouest de *Peking*. La déclinaison de l'aiguille y fut observée de $2^{\circ} 52'$ du nord vers l'ouest.

L'an 1697, les RR. PP. THOMAS¹⁾ et GERBILLON furent à *Ning-hia* à la suite de l'empereur CAM-HI. Ils observèrent la latitude de cette ville de $38^{\circ} 35'$. Ils mesurèrent aussi le chemin, observèrent les rhumbs, et les distances, prirent souvent des hauteurs du pôle, ils estimèrent *Ninghia* plus occidental que *Peking* de $10^{\circ} 20'$ ou $25'$.

Le 21 avril 1697 ils observèrent à *Ninghia* une éclipse du ☉ par les hauteurs du ☉ prises vers le commencement et vers la fin de l'éclipse, ils déterminèrent le commencement à 7 h. 4' du matin. La fin à 9 h. 10' — la quantité 11 doigts $30'$, on ne vit aucune étoile.

Le P. GERBILLON a marqué que près de *Ninghia* la rivière *Hoangho* est fort profonde et qu'elle a dans cet endroit au moins 200 toises de large. *Ninghia* a plus de 19 lis de tour, elle a la figure d'un rectangle oblong, elle s'étend beaucoup plus Est et Ouest que Nord et Sud. D'ailleurs elle a de grands faubourgs. Je n'ay pu trouver d'observation correspondante de l'éclipse observée par les

1) [Antoine THOMAS, 安多, *Nyaa Th*, né à Namur, le 25 janvier 1644; † à Pe king, le 29 juillet 1709.]

PP. GEERILLON et THOMAS. Revenons au voyage des PP. Régis et JAETOUX.

A *Tekong ouey*, ils observèrent la latitude de $37^{\circ} 40' 45''$. Le 27 ^{7bre}, la hauteur méridienne du bord sup. du ☉ fut à *Leang Tcheou* de $50^{\circ} 43' 30''$. Ils en déduisirent une latitude de $37^{\circ} 59' 0''$. Ils examinèrent le chemin fait depuis *Ninghia*, et ils trouvèrent *Leang Tcheou* [涼州] plus occidental que *Ninghia* de $3^{\circ} 18'$. C'est-à-dire $13^{\circ} 43'$ à ouest de *Peking*. La déclinaison de l'aiguille fut observée à *Leang Tcheou* de $2^{\circ} 58'$ du nord à ouest. Après ces observations faites les PP. se disposèrent à observer l'éclipse de lune qui devait arriver la nuit du 29 au 30^e ^{7bre} 1708, la principale de leurs préparations fut de régler une pendule. Le temps ne fut pas favorable pour l'observation, ils ne purent bien observer que le commencement de l'éclipse. Ils l'observèrent clairement à *Leang Tcheou* à 2 h. 49' 30". hor. Corrig. après minuit.

Le commencement de cette éclipse fut observé à Nuremberg, à Gènes, à Marseille.

Nuremberg 8 h. 43' 36"

Marseille 8 h. 20' 45"

Gènes 8 h. 33' 49"

La différence des méridiens entre Paris et ces villes est très bien connue et en prenant le milieu entre ces trois observations, le commencement auroit dû arriver à Paris à 8 h. 8' 30", différence de *Leang Tcheou* 6 h. 41'. Si on prend 7 h. 37' pour différence des méridiens entre Paris et *Peking*, *Peking* sera plus oriental que *Leang Tcheou* de 0 h. 56' ou de 14° on peut presque assurer la différence des méridiens entre *Peking* et Paris de 7 h. 36' à 37' comme le démontre un grand nombre d'observations; ainsi l'observation du commencement de l'éclipse se trouva plusieurs années après confirmer l'estime de la longitude de *Leang Tcheou*. La carte

de la Grande Muraille offerte à l'empereur CAM-UT où étoit la longitude de Leang Tcheou de $13^{\circ}43'$ ouest de Peking, fut offerte 3 ou 4 ans avant qu'on ne eût iej l'observation de l'éclipse, en Europe, et il n'y en eut pas de correspondante à Peking du moins d'exacte.

Le 8^{bre} 1708 à Can tcheou [甘州] la hauteur méridienne du limbe supr. du ☉ fut de $45^{\circ}26'40''$. On en conclut la latitude de $39^{\circ}0'40''$. La déclinaison de l'aiguille y fut observée de $3^{\circ}2'$ du nord à ouest. La hauteur du pôle de Sou tcheou fut observée 2 fois de $39^{\circ}45'20''$ et la déclinaison de l'aiguille $3^{\circ}5'$ du nord vers l'ouest. On releva le bout occidental de la Grande Muraille, on le trouva à ouest, 14° au nord, on mesura la distance, elle fut de 44 lis. A ce bout occidental de la Grande Muraille est un fort appelé Kia yu koan. Le 16^{bre} la hauteur méridienne du bord supr. du ☉ y fut observée de $41^{\circ}33'45''$. On en conclut la latitude de $39^{\circ}49'20''$. La déclinaison de l'aiguille fut observée de $3^{\circ}5'$. On corrigea les routes faites de Leang tcheou à Can tcheou, à Sou tcheou, à Kia yu koan, et on détermina Kia yu koan à $4^{\circ}13'$ ouest de Leang tcheou, c'est-à-dire $17^{\circ}56'$ ouest de Peking. Vang Hai Leou bout oriental de la Grande Muraille est $3^{\circ}10'$ Est de Peking. Ainsi la Grande Muraille a d'est à ouest 21° et $6'$ et les 2 extrémités sont à quelques minutes près à la même hauteur du pôle.

De Leang tcheou à Can tcheou on mesura 454 lis 6 cordes. — De Can tcheou à Sou tcheou 321 lis 2 cordes.

Après avoir déterminé la position de l'extrémité de la Grande Muraille, on se prépara à déterminer de même la situation de plusieurs endroits considérables. A Tchoang Lan, la hauteur du pôle fut de $36^{\circ}47'58''$; à Nan Ta Tong elle fut de $36^{\circ}40'20''$; à Lan tcheou elle fut de $36^{\circ}8'$. Ces trois postes sont le long d'une muraille intérieure dont on avoit connu les extrémités boréales, ainsi on connut l'étendue du pays compris dans cette muraille intérieure. Tchoang lan fut déterminé de 25' plus Est que Leang tcheou et

Lan tcheou [蘭州] $1^{\circ} 8'$ plus Est que *Leang tcheou*. On alla à la ville de *Si ning* sur les frontières du *Coconor*. Elle est le long d'une ancienne muraille ruinée. On y observa plusieurs fois la hauteur méridienne du bord sup. du ☉, ces hauteurs donnèrent $36^{\circ} 39' 0''$ pour la latitude de cette ville. La déclinaison de l'aiguille y fut observée de $3^{\circ} 10'$ du nord vers l'ouest. De *Tchoang Lan* à *Si ning*, il y a 242 lis par mesure, et la route corrigée ayant donné la longitude de *Si ning* par rapport à *Kia yu koan*, *Sou tcheou* &c., on la détermina de $14^{\circ} 34'$ à $35'$ ouest de Peking.

REMARQUES SUR LA CARTE DE LA GRANDE MURAILLE.

1. Les PP. GERSILLON et THOMAS ont été et ont observé dans la plupart des postes de la Grande Muraille depuis *Hi fong k'ou* [喜峯口] jusqu'à *Ninghia*, et les positions qu'ils ont données à ces lieux sont presque entièrement conformes à celles des PP. BOUVER, RÉGIS et JARTOUX pour la longitude. La différence pour les latitudes est quelquefois de plusieurs minutes. Surtout à *Tou che k'ou* [獨石口], à *Yulin ouy*, à *Chin mou hien*, &c. Cette différence vient sans doute de ce que les observations n'ont pas été faites avec des instruments d'une égale bonté. Le $\frac{1}{4}$ de cercle dont se servoient les PP. BOUVER, RÉGIS et JARTOUX est comme j'ai dit de 2 pieds 2 pouces, il fut souvent vérifié, et on observoit le limbe sup.; l'instrument des PP. THOMAS et GERSILLON avoit à peine 15 pouces de rayon, je n'ay pas vu qu'on l'aye vérifié, on prenoit la hauteur du centre; ainsi je crois qu'il est plus sûr de s'en tenir aux latitudes observées en 1708.

2. En 1711, les PP. BONJOUR, FRIDELLI, et JARTOUX firent la carte de la Tartarie, ils allèrent de *Pe-king* au *Ker lon* après avoir passé au *Lac Talmor*, à la rivière *Calca*, aux lacs *Ponyr*, et *Conlon*, ils suivirent le *Ker lon*, le *Toula*, furent jusqu'à la rivière *Silinga*, passèrent au mont *Altay*, ils furent à *Hami*, et rentrèrent à la

Chine par *Kia yu koan*; après une si longue marche, ils examinèrent les latitudes observées, les routes corrigées, les distances réciproques de tous les lieux par où ils avoient passé. Ils observèrent à *Kia yu koan*, à *Sou teheou*, à *Can teheou*, la latitude, et la trouvèrent conforme à celle qu'on avoit observée en 1708. Ils voulurent voir à quelle longitude se devoit reporter *Kia yu koan* en vertu de la résolution d'un si grand nombre de triangles, et ils furent agréablement surpris de trouver cette longitude de 18° environ ouest de *Peking*, à quelques minutes près la même que donnoit le résultat du chemin fait depuis *Vang Hai leou* jusqu'à *Kia yu koan* en 1708.

3. Le P. DU TARTRE¹⁾ jésuite fit²⁾ une observation importante à *Lin tao fou*, ville considérable du Chensi.

Le 17 X^{bre} 1712, il observa la hauteur apparente du centre du ☉ de $32^{\circ} 2'$; de cette observation il conclut la latitude du lieu de $35^{\circ} 19' 46''$. L'examen du chemin de *Lin tao fou* à la ville de *Lan Teheou* fit voir au P. DU TARTRE que ces 2 villes étoient presque Nord et Sud. Le P. DU TARTRE calcula toutes les routes faites depuis *Si ngan fou*, capitale de la province, et les ayant corrigées par l'observation des hauteurs du pôle de plusieurs endroits, il détermina *Lin tao fou*, plus ouest que *Si ngan fou* de $4^{\circ} 54$ ou $55'$.

Les observations des satellites de Jupiter faites autrefois à *Si ngan fou* par le P. LACOMTE³⁾ avoient fait voir *Si ngan fou*⁴⁾ plus occidentale que *Peking* de $7^{\circ} 39' 45''$. Ainsi *Lin tao fou* sera à $12^{\circ} 34' 40''$ ouest de *Peking*. Nous avons vu que *Lan Teheou* fut déterminé par les PP. RÉGIS et JARTOUX $1^{\circ} 8'$ plus est que *Leang Teheou*, c'est-à-dire $12^{\circ} 35'$ plus ouest que *Peking*. On voit donc

1) [Pierre Fournet du TARTRE, 湯尚賢, *Tang Chang-hien*, né le 22 janvier 1669, à Pont-à-Mousson; † 25 février 1724, à Peking.]

2) En 1712.

3) [Louis Daniel LE COMTE, 李明, *Li Ming*, né à Bordeaux, le 10 octobre 1655; † à Bordeaux, le 19 avril 1728.]

4) *Mémoires de l'Académie*, 1699.

combien exactes furent les observations des distances et des rhumbs faites par les PP. RÉGIS et JARTOUX en 1708.

4. Les *Mémoires de l'Académie* 1699 rapportent aussi le résultat des observations des satellites faites par les Jésuites à *Kiang Tcheou* ¹⁾. Selon ce résultat *Kiang Tcheou* est plus ouest que Peking de $5^{\circ} 7' 15''$. La distance de *Kiang Tcheou* [絳州] au rivage oriental du *Hoangho* ²⁾ a été mesurée de 100 lis dont *Kiang Tcheou* est plus oriental que le *Hoangho* à cette latitude. Les Jésuites ont observé dans la plupart des lieux qui sont le long de cette branche du *Hoang ho* du Sud au Nord et l'endroit où le *Hoang ho* entre de la Tartarie dans le Chanxi a été conclu Nord et Sud avec *Kiang Tcheou*. Ainsi ce lieu seroit plus ouest que Peking de $5^{\circ} 7' 15''$. En 1708 les PP. BOUVET, RÉGIS et JARTOUX passèrent dans ce lieu, et l'estime qu'ils firent de sa longitude fut de $5^{\circ} 14'$ ou $15'$ ouest de Peking et c'est aussi l'estime que fit le P. DU TARTRE de la longitude de *Kiang Tcheou*. On peut donc regarder comme sûre la longitude de ce lieu de la Grande Muraille, ou l'appelle *Choui men tong t'cou* à $39^{\circ} 47'$ de latitude.

5. Ceux qui s'intéressent pour la géographie de la Chine seront peut-être bien aises de savoir 1^o que c'est le P. PABRIN qui trouva le moyen de faire naître à l'empereur CAM-HI le désir de voir une carte exacte de la Grande Muraille; 2^o que ce prince fut si content de la carte de la Muraille faite par les PP. BOUVET, RÉGIS et JARTOUX, qu'il résolut de faire faire la carte de tous ses vastes Etats dans la Chine et dans la Tartarie.

6. On voit assez l'utilité des opérations faites pour déterminer les points de la Grande Muraille. Elle sépare la Chine du Leao tong et de la Tartarie, et c'est comme autant de points fixes propres à déterminer sans peine la position d'un nombre infini des lieux qui répondent à ces points, soit en Tartarie, soit dans la Chine.

1) La latitude a été observée de $35^{\circ} 37'$; cette ville est du Chanxi.

2) Il s'agit du grand fleuve de ce nom.

7. Depuis *Chao hou k'ou* dans le *Chensi*, jusqu'à *Kia yu k'ou* bout occidental de la Grande Muraille dans le *Chensi*, la Muraille est en mauvais état, et de terre. Mais il y a beaucoup des villes de guerre avec des garnisons nombreuses. Le Père GERBILLOX dans ses journaux, et le P. RÉGIS dans ses mémoires de géographie ont parlé au long de la Grande Muraille et des pays et villes qui sont auprès. Ils sont témoins oculaires.

8. Ce qu'on a en Europe sur l'histoire de la Chine a fait croire que l'empr. TS'IN CHI HOANG [秦始皇帝] a fait faire la Grande Muraille, cela [a] besoin d'explication.

Vers le commencement du 4^e siècle avant J. C. dans les pays qui répondent aujourd'hui aux provinces de Petchelj, Chansj, Chensi, régnoient 3 familles appelées *Ts'in* [秦], *Tchao* [趙], *Yen* [燕]. Leurs pays étoient limitrophes des Tartares qui dans ce temps là se fortifièrent extrêmement, élurent des chefs, et se divisèrent en hordes indépendantes les unes des autres. Les princes de TSIN battirent les Tartares et firent une muraille depuis le nord de *Lin Tao fou* jusqu'au *Hoang ho* au nord de *Yenganfou* [延安] dans le Chensy.

Les princes de TCHAO battirent aussi les Tartares, et firent une muraille depuis le *Hoangho* jusqu'aux frontières du Petchelj ¹⁾.

Les princes de YEN battirent et défirent aussi les Tartares et firent la muraille depuis le nord de *Suen hoé fou* [宣化] jusqu'au *Leao tong*.

L'empr. TS'IN CHI HOANG réunit à son royaume de *Ts'in* tous les autres de la Chine, et son général MONG TIEN eut ordre de visiter les murailles faites par les princes de *Ts'in*, de *Tchao* et de *Yen*. Ce général fit pendant 10 ans une rude guerre aux Tartares et l'an 214 ²⁾ avant J. C., il acheva les ouvrages nécessaires pour

1) L'histoire rapporte cette action l'an 307 avant J. C.

2) C'est la 33^e année du règne de *Ts'in Chi Hoang*.

joindre les 3 murailles, et la conduisit jusqu'à *Vang Hsi Leou* dans la Mer orientale.

Ce que je viens de dire sur la Grande Muraille est marqué dans l'histoire chinoise et *Sse-ma Ts'ien*, auteur célèbre avant J. C., parle clairement des murailles faites avant le temps de *Ts'in Chi Hoang*.

VII.

De la situation de quelques lieux de Tartarie.

Cette ville [Hami] est la même que beaucoup de cartes appellent *Camoul*. Elle est gouvernée par un prince mahométan; ses sujets sont aussi mahométans.

En 1711, les PP. JARTOUX, FRIDELLI, et BONJOUR observèrent le 16 7^{bre} la hauteur mérid. du bord sup. du soleil de $42^{\circ} 51' 0''$.

Dans un Catalogue des latitudes, je trouve la latitude de Hami observée $42^{\circ} 53' 20''$. Ces 3 PP. mesurèrent de Hami à *Kia yu koan*, dernier poste de la Grande Muraille, 970 lis. De cette distance, et des rhumbs de vent observés, et corrigés ils conclurent Hami plus occidental que *Kia yu koan* de $4^{\circ} 36'$. En 1708, *Kia yu koan* avait été trouvé plus occidental que *Peking* de $17^{\circ} 56'$, Hami sera donc plus occidental que *Peking* de $22^{\circ} 32'$.

De la situation
de la source de
l'Irtis.

La même année 1711, le même Père JARTOUX avec les PP. FRIDELLI et BONJOUR observèrent sur la petite rivière *Tougourii* une latitude de $45^{\circ} 24'$ et selon la résolution des triangles, il estima ce lieu de $19^{\circ} 30'$ à ouest de *Peking*. Ils déterminèrent la fin des monts Altay de $46^{\circ} 20'$ pour la latitude et de $20^{\circ} 20'$ ouest de *Peking* pour la longitude. C'est là qu'ils eurent des Tartares qu'au voisinage était la source d'une grande rivière appelée *Ertchia* ou *Erkis*. Sur le rapport des Tartares, ils déterminèrent la source de cette rivière à $46^{\circ} 4'$ de latit. et à $20^{\circ} 30'$ ouest de *Peking*. On a su depuis seulement que cette rivière *Erkis*, ou *Ertchia*, était l'Irtis,

qu'elle passoit à Tara et à Tobol, qu'elle s'alloit joindre au fleuve *Opon*, ou *Oby*.

La même année 1711, les 3 PP. susdits observèrent la latitude de $49^{\circ} 27' 35''$ auprès de l'endroit où la rivière *Iben* se jette dans le *Silinga*; le lieu fut estimé 11° ouest de Peking. A la jonction de la rivière *Egué* avec le *Silinga*, ils observèrent une latitude de $49^{\circ} 27' 10''$ et le lieu fut estimé $12^{\circ} 25'$ ouest de Peking. Sur la rivière *Hara*, ils observèrent une latitude de $49^{\circ} 10'$. La longitude fut estimée de $10^{\circ} 15'$ ouest de Peking. A 30 lis à Est Sud Est du lieu où la rivière *Touia* se jette dans le Kerlon, les PP. GERBILLOX et THOMAS en 1698 observèrent la latitude de $48^{\circ} 54'$. Leur route donnoit ce lieu 449 lis plus occidental que *Oulan Erghi*.

Or *Oulan Erghi* est sur le Kerlon. A 6 lieues Est $\frac{1}{4}$ de Sud les 2 PP. observèrent une latitude de $47^{\circ} 15'$ et *Oulan Erghi* fut trouvé par le calcul des mesures et des rhumbs à 973 Lis à l'ouest du Lac *Touré nor*.

Ce point de *Oulan Erghi* est un des mieux marqués dans la Tartarie. La même année 1698, les PP. GERBILLOX et THOMAS partirent de *Hi fong K'eu*, porte de la Grande Muraille. Ils furent à un petit lac au Sud de Kerlon appelé *Touré nor*. La latitude y fut observée de $48^{\circ} 32' 35''$. Ce lac *Touré nor* n'est que $3'$ ou $4'$ de degré à l'Est de Peking selon le calcul des routes faites en 1711 par les PP. BONJOUR, JARTOUX et FRIDELLI depuis *Tou che K'eu*, porte de la Grande Muraille, jusqu'à *Touré nor*. La route des PP. THOMAS et GERBILLOX en 1698 donne aussi à *Touré nor* la même longitude à peu de chose près. 973 lis font près de $7^{\circ} 10'$ d'est à ouest depuis *Touré nor* jusqu'à *Oulan Erghi*.

En 1711 les PP. BONJOUR, JARTOUX et FRIDELLI, trouvèrent à *Oulan Erghi* la latitude de l'an 1698 et par leur mesure trouvèrent ce lieu plus ouest que *Touré nor* de $7^{\circ} 18'$ ou $20'$ ou $7^{\circ} 14'$ ou $16'$ ouest de Peking.

En 1698, les PP. THOMAS et GERBILLON revinrent à *Peking* de *Oulan Erghi*, ils passèrent par la ville de *Coucouhoton* [Kou Kou Khoto ou Kouei Houn tch'eng, 歸化城] après avoir passé par les lieux les plus déserts de la Tartarie sans trouver ni rivière, ni ruisseau, ni ville, ni village, ni habitations. J'ai calculé leurs routes de *Oulan Erghi* jusqu'à *Coucouhoton*, et j'ai trouvé que ces routes donnoient *Coucouhoton* plus sud que *Oulan Erghi* de $6^{\circ} 45'$ et plus est de $2^{\circ} 10'$ ou $12'$, c'est à dire selon l'estime de *Oulan Erghi*, $40^{\circ} 33'$ de latitude et $4^{\circ} 50'$ ou $55'$ ouest de *Peking*. Or *Coucouhoton* a été observé ¹⁾ à la latitude de $40^{\circ} 49'$ et sa longitude a été plusieurs fois et par diverses personnes ²⁾ estimée $4^{\circ} 48'$ ouest de *Peking* à peu près. L'endroit où le *Toula* se jette dans la rivière *Orgoun* est dans la carte des PP. BONJOUR, JARTOUX et FRIDELIS à $48^{\circ} 57'$ de latit. et $11^{\circ} 20'$ ouest de *Peking*.

A la latitude de $47^{\circ} 58'$, $8^{\circ} 30'$ par estime ouest de *Peking* une petite rivière appelée *Tereghi* ³⁾ se jette dans le *Toula*. Le 12^e Juin de l'an 1696 l'armée de l'empr. *Cam hi* tailla en pièces celle du *Caldan*, Roy des *Elenthes*. Ce combat se donna au Sud de l'embouchure du *Tereghi*. Au voisinage, on observa en 1698 et en 1711 la latitude; et la longitude de *Oulan Erghi* étant si bien établie, celles des lieux voisins ne le seront pas moins.

La route que le P. GERBILLON fit en 1689 de *Peking* à *Nipchan* fait voir que cette ville de *Nipchou* ⁴⁾ n'est que de bien peu occidentale par rapport à *Touré nor*, ainsi elle est presque sous le même méridien que *Peking*. En 1683, le P. VERRIEST mesura la hauteur des montagnes depuis *Peking* jusqu'au lac *Tal-nor*. Il trouva ce lac sous le méridien de *Peking*. Les routes faites depuis ce temps là à

1) En 1712 par les PP. BONJOUR, JARTOUX, et FRIDELIS.

2) PP. GERBILLON, THOMAS, JARTOUX, FRIDELIS, BONJOUR qui y ont été et mesuré le chemin.

3) Elle vient du nord-ouest.

4) Lat. $51^{\circ} 45'$.

Tal nor ¹⁾ dont on a mesuré souvent la distance à *Peking*, ont confirmé ce qu'avoit trouvé le P. VERBIEST à 30' près dont on a trouvé Tal nor plus oriental.

En 1711, les PP. BONJOUR, JARTOUX et FRIDELLI observèrent les latitudes suivantes: 47° 40' bord méridional du lac Pouhir. 48° 1' bord boréal du même lac. 48° 47' 9'' Embouchure du Kerlon dans le lac Coulon. Embouchure de la rivière Ergoné dans le Coulon 49° 24'.

Le lac Pouhir selon les PP. THOMAS et GERBILLON a 80 lis du S.S.O. au N.N.E. et le lac Coulon a plus de 130 lis du N.O. au S.O. La longitude marquée sur la carte pour les deux lacs est celle qu'estimèrent les PP. JARTOUX, FRIDELI et BONJOUR en 1711, et elle est assés conforme à celles que les PP. GERBILLON et THOMAS estimèrent en 1698.

Paras hoton ou *Par hoton*, est une ville ruinée sur le bord boréal du Kerlon. Elle avoit 20 lis de tour, il en reste encore quelques pans de muraille et plusieurs pyramides. C'était une ville assés considérable du temps des Emprs. *Mongou* qui la firent bâtir.

La latitude de cette ville est de 48° 58' ²⁾ et 2° 52' ouest de *Peking*. En 1711, et en 1698, on prit des hauteurs du pôle aux environs, et la route depuis le lac Touré nor jusqu'à *Paras hoton* a donné aisément sa longitude, le chemin ayant été mesuré plusieurs fois fort exactement.

L'an 1696, les PP. THOMAS, PERETRA et GERBILLON suivirent l'Empr., à la campagne contre le Caldan. Ils sortirent par *Tou che k'cou*. A Souretou la hauteur méridienne de l'étoile polaire donna la hauteur du pôle de 43° 57' et on l'estima à 1° 26' ouest de *Peking*.

On détermina Houloustay de 45° 24' pour la latitude et de 2° 42' pour la longitude ouest de *Peking*.

1) La latitude de Tal nor qu'on voit sur la carte est par observation.

2) Les PP. THOMAS, GERBILLON, BONJOUR, JARTOUX et FRIDELLI ont observé la hauteur du pôle, fort près de la ville et ils l'ont vue.

A 5 ou 6 lieues de Houloustay, on trouva des pièces de marbre qui portent qu'autrefois l'empr. *Yong lo* passa par là allant faire la guerre aux *Mongou*. Cet Empr. *Yong lo* commença à régner l'an de J. C. 1403, et mourut l'an 1424. L'expédition rapportée dans les pièces de marbre en 1696 est rapportée au long dans la vie de ce prince avec plusieurs autres, et elles confirment que c'est à la source du *He long kiang* que Gentchiscan fut autrefois reconnu empr.

Entre la rivière de *Changtou* et le pays d'Ortous on a trouvé un grand nombre d'anciennes villes détruites. Ce pays est très bon et de tout temps a été très peuplé. Les divers voyages que les PP. THOMAS et GERBILLON ont fait dans tout ce pays en a fait très bien connoître la situation. Les PP. BONJOUR, FREDELI et JARTOUX en 1712 furent encore au nord du pays d' Ortous, et leurs observations jointes à celles qu'on avoit déjà des PP. THOMAS, GERBILLON, REOIS, JARTOUX, ont fait connoître au juste le cours du Hoangho autour du pays d'Ortous.

Les observations de beaucoup de hauteurs du pôle, jointes à une mesure exacte des distances ont fait connoître les pays immenses où se trouvent *Seyolqui*, *Merguen*, *Aigoun*, *Tchitiar*, *Parin*, les rivières *Non*, *Tor*, *Kousileri*, *Leao*, *Songari*, *Courga*, *Ousouri*, les villes du *Leao tong*, *Pedne*, *Ponta oula*, *Kirin oula*, *Ningouta*, *Tondon*; dans tous ces vastes pays les PP. REGIS, JARTOUX, FREDELI, PARRENIN ont observé la hauteur du pôle, mesuré les distances, observé les rhumbs, et ont fait connoître en détail un pays dont le P. VERRIER avoit déjà donné plusieurs connoissances.

Le pays du *Leao tong* a une palissade qui l'entoure presque entier. Cette palissade a fait long temps croire qu'il étoit en deça de la Grande Muraille. Je ne suis pas bien au fait sur l'antiquité de cette palissade, non plus que sur celle qui va au nord du *Leao tong*.

VIII.

Des frontières de la Province du Yunnan et du Gannan.

Une exacte connoissance des royaumes de Bengale, du Pegou, d'Ava, de Laos, et du Tongking, nous instruirait au juste des pays où répondent les limites australes et occidentales du Yunnan.

La latitude de la capitale de la province et des principaux points des frontières du Nord-Ouest et du Sud a été observée.

Les rivières *Ta yn* et *Pin lang* se joignent à la rivière *Long Tchouen* hors du Yun nan, et font un grand fleuve qui est aurifère, et va se jeter dans la mer du Sud, dit la Géographie chinoise.

Le grand fleuve *Ya rou* qui a sa source à ouest du mont Cantiffe et traverse le Tibet, n'entre pas dans le Yun nan et on ne marque pas son embouchure.

Le fleuve *Nou* est celui qui va se décharger à la mer de Camboge, du moins cela suit du cours qu'on donne aux autres rivières. Le fleuve *Hotiho* [河底江] est le fleuve appelé *Foulankiang* ¹⁾, il passe à la capitale du Tongking. Le fleuve *Lants'ankiang* [瀾滄江] se décharge à la mer à l'ouest de l'embouchure du *Hotiho*.

Gannan est le nom commun au *Tongking* et à la *Cochinchine*, et il n'est pas aisé de savoir quand on a commencé à appeler indifféremment ou du nom de *Kiao-tchi* [Giao chi 交趾] ou du nom de *Gannan* [安南] la *Cochinchine* et le *Tongking*.

Il y a plus de 960 ans que les astronomes de la dynastie des *T'ang*, observèrent dans la capitale de *Gannan* ²⁾ une latitude qui répond à 20° 6' 24", et avant la venue des Jésuites, les astronomes de la dynastie des *Ming* représentoient cette ville plus occidentale

1) J'en ay parlé dans l'histoire de Hongkong à l'occasion des guerres que ce prince eut avec le *Gannan*.

2) Cette ville est appelée par les Chinois *Kiao-tcheou* [Ke-cho', 几帛]. Les géographes chinois qui placent *Kiao-tchi* au Sud de *Gannan*, entendent par *Gannan* le *Tongking* et par *Kiao-tchi* la *Cochinchine*.

que la capitale de l'isle de *Haynan* d'un temps qui répond à 14' 24". Je n'ay garde de garantir cette longitude comme certaine.

Les mêmes astronomes des *Tang* observèrent dans la ville de *Lín y* [林邑] appelée depuis *Tchentschen* [占城] une latitude qui répond à 17° 8' 22". On ajoute que cette ville est sur la mer, au sud ouest de l'isle de *Haynan*, et au sud du *Tongking*, et que dans un jour on peut aller de *Tchentschen* à l'isle de *Haynan*.

REMARQUE.

Dans la carte on voit que les gens du pays qui donnèrent aux Jésuites le nom des limites, entendoient par *Kiao tchi* le *Tongking*. D'un autre côté il est certain que souvent *Gannan* désigne la Cochinchine et le *Tongking* ensemble, et souvent le *Tongking* seul.

IX.

Du Royaume de Koua-oua.

Dans l'histoire feuille 43, pag. 3, 4, et feuille 44, pag. 1, on a parlé d'une guerre faite à *Koua-oua*. J'ay cité une carte du feu Empereur *Cam hi* qui donne le nom de *Koua-oua* au pays de la presqu'île des Indes et qui est vis-à-vis *Ceylan*. Ce *Koua-oua*, non plus que le royaume d'*Ara* ne sauroit être le *Koua-oua* dont il s'agit ici. 1° la flotte chinoise montée par 30000 hommes alla de *Koua-oua* dans 68 jours à *Tsuen tcheou* ¹⁾ port de mer du *Fokien*. 2° quand la flotte eut fait voile de *Tsuen tcheou* elle alla à *Tchentschin* entre le *Tongking* et la Cochinchine; on passa ensuite la grande mer. 3° Le livre *Ouen hien tong kao* et autres disent que *Koua-oua* est une isle, et même lui donnent le nom de *Toupo* qui est un des noms de *Bornéo*. Ces circonstances me font croire que *Koua-oua* est une partie de *Bornéo*, et *Colang* sera ainsi une autre partie de cette grande isle.

1) Latitude 24° 59' 10". Longit. 2° 26' Est.

Du Pays de Toufan et Tang-ou.

Dans l'histoire des *Yuen* c'est un grand pays limitrophe aux provinces de *Yun nan* et de *Sse Tch'ouen*. Au *Toufan* étoit alors joint le pays de *Tang ou* qui comprenoit le *Si fan*, le pays de *Coconor* et les environs de *Cha tcheou*. Ce pays de *Tang ou* étoit autrefois plus peuplé et plus puissant qu'il n'est aujourd'hui, et dans le 7^e et 8^e siècles le Roy de *Toufan* étoit très puissant et fit de grandes conquêtes dans l'Inde, le Khorassan, le pays de *Cascar* et le *Chensy* occidental. Par beaucoup de mots rapportés, on voit que la langue des *Toufan* du 7^e et 8^e siècle étoit celle du Tibet d'aujourd'hui. Pour ce qui regarde les caractères, ceux du Tibet d'aujourd'hui s'appellent caractères de *Tangou*, de là vient que les Tartares *man-tchoux* donnent au Tibet le nom de *Tangou*.

Les *Mongou* appellent le Tibet *Parentala*; pour être au fait sur ce mot, il faut savoir qu'en mongou l'Orient s'appelle *Paroun*, et l'Occident s'appelle *Tchoun*, ou *Gioud*, *tala* veut dire pays et souvent terre labourable, or les *Mongou* donnent le nom d'*Eleuthes* aux princes et peuples descendus de *Tamerlan*, et ils appellent les *Eleuthes* qui règnent en *Coconor*, et en Tibet *Paroungar*, et les *Eleuthes* de *Cascar*, *Irguen*, *Harcas*, et autres sont appellés *Tchoungar*. *Gar* en mongou veut dire main. C'est comme s'ils disaient *Eleuthes* de la main de l'Est, *Eleuthes* de la main de l'Ouest.

X.

*Du Pays des K'i tan [契丹], ou Si Tan,
et Leao occidentaux [西遼].*

Ces *K'i tan*¹⁾ ont en aussi le nom de *Leao* parce qu'ils sont venus du pays qui est voisin de la rivière de *Leao* dont on voit le cours dans la carte.

1) On voit en chinois et en tartare une histoire de ces *K'i tan*. Elle contient des faits très remarquables.

L'an de J.-C. 916 *Apaoki*, chef des hordes des *K'i tan* fonda une puissante dynastie. Il se vit maître de la Tartarie orientale jusqu'à la mer orientale et de l'occidentale jusqu'à la rivière du Kerlon et du Toulâ. Il étoit maître des provinces du Chansy, Petcheli, Chantong, les princes de Casgar, Hami, Turfan, se soumirent à lui, et peu à peu des princes *K'i tan* se rendirent puissants dans les pays entre le Chensi, la rivière Irtis, l'Elj, et les villes d'Irguen et de Casgar.

L'empire de ces *K'i tan* dans les 2 Tartaries, et dans la Chine fut détruit en 1125 par les Tartares *Nu Tchîn*, ou *Nutché*, ou *Kin*, mais les *K'i tan* qui régnoient dans l'occident se maintinrent. Un des princes *K'i tan* orientaux appelé *Yelu Tache* étoit 8^e descendant d'*Apaoki* et ne voulut jamais se résoudre à vivre sujet des *Kin*. Il étoit indigné de la conduite du dernier Empr. des *Leao*, et tua deux de ses ministres comme auteurs des malheurs de sa famille. Il choisit en secret 200 cavaliers cuirassés et partit des environs de *Tuitongfou*, ville du *Chansy*. Il alla camper au nord du pays d'Ortous, de là il alla trouver le Prince Turq de *Petata* son allié et son amj. Il reçut de lui quelques secours de vivres, d'hommes et de chevaux, et se rendit au pays de *Turphan*. Là il assembla les princes de sa famille, leur annonça les maux que la branche d'*Apaoki* avoient soufferts des *Kin* et leur demanda des secours pour aller dans le pays des Mahométans. *Yelu Tache* se procura à *Turphan* de toute sorte de vivres, armes et munitions, et 10000 hommes choisis s'offrirent à lui. Avant de partir de *Turphan* il écrivit ¹⁾ au Roy mahometan qui régnoit au Nord et Nord-Ouest de *Turphan* pour lui demander passage par ses états, et cependant il fit un sacrifice solennel au Ciel, et n'oublia pas les cérémonies des Chinois aux Princes ayeux.

1) *Yelu Tache* étoit très habile dans l'histoire. Dans sa lettre à *Péleu* il rapporte quelques points importants pour l'histoire des *Tang*.

Pileko Roy des Mahométans invita *Yelu Tache*, le reçut très bien à sa Cour, et lui donna des vivres et des secours.

Yelu Tache fit plus de 80 lieues à l'Ouest, faisant partout un butin inestimable, il arriva près d'une ville appelée *Sunsecan*. Divers princes Mahométans rassemblèrent leurs troupes et firent une armée de 100 000 hommes, *Yelu Tache* quoique inférieur en nombre tailla en pièces cette armée. *Yelu Tache* demeura 90 jours à *Sunsecan* et il y reçut de grands presents d'un Roy Mahométan, ensuite il fut à *Kirman*. La bataille se donna l'an 1123. On ne dit pas dans combien de jours *Yelu Tache* fut de *Sunsecan* à *Kirman* qu'on marque à ouest de *Sunsecan*.

Le 5^e jour de l'an 2^e lune chinoise de l'an 1124, l'armée déclara *Yelu Tache* Empr. La proclamation s'en fit à *Kirman*. Son titre fut *Korkan* ou Roy du Nord du désert; et il avoit alors 38 ans. Voilà l'origine des *Sy Leao* ou *Leao Occidentaux*. *Yelu Tache* fut 3 ans à *Kirman*, après lesquels il marcha 20 jours vers l'Orient, et établit sa cour à un lieu qu'il appella *Housortou*. La même année il envoya 70 000 cavaliers vers l'Est pour faire des conquêtes, on ne trouva que des mauvais pays et on ne put rien faire. Cette armée revint à *Housortou*.

L'an 1136 *Yelu Tache* mourut. La reine son épouse appelée *Tapouyen* gouverna 7 ans, et *Ylié* fils de *Yelu Tache* et de *Tapouyen* fut *Korkan*.

Ylié trouva dans ses états 80 500 hommes au dessus de 18 ans capables de porter les armes sans compter les jeunes gens au dessous, les enfans, les vieux et autres. *Ylié* mourut, et après sa mort, sa soeur *Pousouman* gouverna l'état pendant 14 ans. Cette princesse mécontenta les Grands; elle fut tuée par un grand seigneur et on proclama *Korkan* le fils d'*Ylié* appelé *Tchiloucou*.

Tchiloucou étant un jour allé à la chasse fut pris par 8000 *Nayman* commandés par *Kutchoulu*. On ne dit pas le lieu de la

chasse. Cette prise de *Kutchoulu* fut l'an de J. C. 1201. *Kutchoulu* devint ainsi *Korkan*. Il était déjà roy des *Nayman*. Il traita bien son prisonnier. C'est ce même *Kutchoulu* que *Gentchiscan* fit mourir.

REMARQUES:

1. Ce que je viens de rapporter du *Korkan*, ou *Kurkun*, ou *Korkan* éclaircit ce qui est dit du *Korkan* ou *Kurkun* dans M. d'HERBELLOT, et met un fait sur l'origine des *Leao* occidentaux dont la dynastie est supposée toujours comme dans l'histoire chinoise.

2. On voit que les *Nayman* dont il est parlé dans l'histoire de *Gentchiscan* n'étoient pas dans le pays où sont aujourd'hui les *Nayman* voisins du *Leantong*.

3. Le *Kirman* dont il s'agit ici ne sauroit être celui de Perse comme on va le voir par la situation de *Sunsecan*, et comme il est clair que les pays soumis au Roy *Sangiar* et *Mahomed Kouaresme Schasch*.

XI.

De la situation de Sunsecan.

Dans l'histoire on a vu qu'à la 5^e Lune de l'an 1220 l'armée de *Gentschiscan* prit la ville de *Sunsecan*.

A la 1^{re} Lune ¹⁾ de l'an 1253 *Holagou* partit de *Holin* capitale des Etats de son frère *Meng ko*. *Holagou* partit pour la conquête du pays du calife, ou *halifa*.

Il fit 15 ou 18 lieues au nord ouest, ensuite marcha 7 jours au Sud Ouest et de la rivière *Long ko* il courut au nord ouest pour gagner les frontières du pays de *Piehepali* ²⁾.

Le 24^e de la 2^e Lune, il passa aux montagnes de *Y*, et *Tou*, et se trouva dans un pays habité autrefois par les *K'i Tan*, c'est-à-dire

1) On ne dit pas quel jour de la 1^{re} lune il partit.

2) *Bicchélig*. — Les Chinois mettent ce pays vers le nord du pays de *Turpan*.

par les Leao occidentaux; il trouva des vestiges de leurs campements, des palissades, des retranchements, &c.

Le 1^{er} de la 3^e Lune il fut à la ville de *Sairam* ou *Sairen*. Cette ville est sur les cartes. La géographie chinoise met *Sailan* ou *Sairen* à l'est d'une ville, qui est sur les cartes et appelée *Tas-kent*, ou *Taskent*, et elle dit qu'elle est plus orientale que Samarcande d'une distance qui répond à 80 Lieues. Le 8^e de la 3^e Lune, *Holagou* fut à la ville de *Sunsekan*. On ne marque pas s'il alla au nord ouest, ou à l'ouest; mais on voit qu'il y fut de *Sairen* dans 7 jours.

Sunsekan est appelée *Hotchong*, et je suis très porté à croire que *Sunsekan* est la ville de *Khogend* marquée sur les cartes. Quoiqu'il en soit, on voit au moins une partie du pays du *Korcan*, car les monts *Y*, et *Tou* ne sont autre chose que ces montagnes qui sont au nord ouest et ouest de *Turphan*. C'est là qu'étoit la ville d'*Almalig*; les Chinois l'appellent *Olimali*, et mettent le pays d'*Olimaly* à ouest et nord ouest du pays de *Turphan*. Un mémoire de géographie arabe place *Almalig* à 44° de latitude et 6° ou 7° plus à est que *Cachegar*. Tout cela me feroit croire que le *Kirman* où *Yelu Tache* fut déclaré *Korcan* est le *Kerminah* d'Abulfeda ¹⁾.

XII.

De la situation de la ville de Holin ²⁾.

L'histoire dit que *Holin* [和林] est la ville où *Pitien* Roy des *Hoeyhou* du temps des *T'ang* faisoit son séjour. Or par l'histoire des *Leao*, c'étoit près d'un lieu appelé *Poucouhan*, et selon les notices chinoises des villes et lieux de Tartarie, *Poucouhan* étoit à un lieu qui n'est pas loin du lieu qu'on appelle aujourd'hui *Erdeni Tchao* sur

1) Voyez M. d'Herbelot pag. 960.

2) [Voir le premier mémoire de P. Gaubil dans *T'oung Pao*, Vol. IV, No. 1.]

la rivière *Orgoun*, et c'est vers ces quartiers que les cartes chinoises marquent *Holin*, mais sans latitude, sans longitude, et sans distance.

On sait la situation du mont *Altay*, c'est-à-dire de la plus considérable de ces montagnes appelées *Altay* et c'est la plus occidentale. Or on voit que du mont *Altay* il falloit aller à l'Ouest pour aller à *Holin*, mais on ne marque pas combien. D'un autre côté on voit aussi que pour aller du pays d'*Etsina* à la ville de *Holin*, il falloit aller à l'ouest.

On voit encore par les vieilles cartes que *Holin* devoit être plus ouest que le pays d'*Ortous*. L'astronomie chinoise dit qu'au solstice d'été un gnomon de 8 pieds donne à *Holin* l'ombre de 3 pieds, 2 pouces, 4 fen; 10 fen font un pouce; 10 pouces font un pied. Les astronomes des *Yuen* assentent qu'ils ont observé à *Holin* une latitude qui répond à $44^{\circ} 20' 19''$ et si on compare *Holin* à *Ninghia*, au pays d'*Ortous*, au *Toula*, au mont *Altay*, dans les cartes chinoises, cette comparaison jointe à la connoissance de ces lieux, et de celles de sa latitude qui doit être sûre à 20 ou 30 près, on doit nécessairement conclure que *Holin* étoit entre le 10° , 11° et 12° ouest de *Peking*.

Si on compare ce que j'ay dit de *Holin*, avec ce qu'on rapporte de *Caracoram* dans le livre de M. d'Herbelot, on doit nécessairement conclure que *Holin* et *Caracoram* ne sont que la même ville sous des noms différents. La notice des villes faictes du temps des *Yuen* dit que *Holin* n'est autre que *Halo Holin* ou *Cara oulan*, ou *Cara oulin*, du nom d'une rivière de ce nom qui est à ouest de *Holin*. C'est *Holin* qui étoit la capitale des états de *Gentchiscan*, et de *Mengko* et qui fut rebatis, et ornée d'un palais par *Ogatay*; c'est de *Holin* que *Holagou* partit pour la Perse et Syrie, c'est à *Holin* que *Alipouco* se révolta au temps de *Houpiloy*. Tout cela est rapporté de *Caracoram* dans M. d'Herbelot. La latitude de *Caracoram* rapportée dans la vie de St. Louis ne sauroit être une objection

recevable, puisque *Mengko* et autres princes *mongou* ne tenoient jamais leur cour dans un pays si boréal, et que même les princes n'avoient pas des places à cette hauteur, du moins qui fussent d'importance. Le religieux franciscain jugea de la hauteur du pôle par le froid qu'il sentit, or s'il falloit ainsi juger, il faudroit dire que *Peking* est plus nord que la ville la plus boréale de France et cependant il est certain que la latitude de *Peking* est de quelques minutes au dessous du 40°.

Dans plusieurs livres européens on dispute beaucoup sur la situation de *Cambalu*, ou *Cambalek* ou *Hanbalec*. Supposé que *Han Balek* veuille dire Ville Impériale, ou Royale, ou Cour de Roy, on pourra donner ce nom à toutes les villes où les Roys ont leur Cour. Il est certain que la ville de *Chins* ou *Houpilay* tenoit sa cour, étoit *Peking* d'aujourd'hui et il ne faut pas douter que le *Cambalu* de M. Paul ne soit le lieu où est aujourd'hui *Peking*.

Le *Canbalek* du géographe qui le met à 46° de latitude, et à 25° est de *Cangar* a sans doute voulu parler de *Holin*; pour décider ces sortes de questions sur *Cambalu* ou *Khanbalek*, il faut savoir: 1° le temps où vivoit celui qui donne ce nom, ou dont on a pris ce nom. 2° le lieu où le roy dont on parle, ou qui vivoit alors tenoit ordinairement sa Cour. Ensuite on ne sera nullement surpris de voir tant de différentes positions à la ville appelée *Kanbalek*, *Cambalu*, etc.

XIII.

Situation de la ville de Changton [上都].

Il ne sauroit y avoir aucune difficulté sur la situation de cette ville, car la notice des villes faites du temps des *Yuen* marque cette ville au nord de la rivière de *Louon*, en Tartarie. On ajoute que les astronomes des *Yuen* y observèrent une latitude qui répond

à 42° 22' 55". Pour faire connoître cette rivière *Louan*, on dit que sa source est à 100 lis au nord est de *Yun tcheou pou*. On fait aller cette rivière au nord, ensuite à l'ouest, on la fait entrer à la Chine, passer à *Tsien gan*, à *Louan tcheou* et entrer dans la mer du Petchelj. La carte de la province de Petchelj marque *Yun Tcheou pou*. Latit. 41° 4', Longit. 38' occid. Elle marque aussi la ville de *Tsien gan* et de *Louan Tcheou* sur la rivière *Louan*, ou *Lan* et son embouchure. Latit. 39° 15', 2° 40' Est de Peking. Cette rivière *Louan* a sa source en Tartarie. Latit. 41° 9', Long. 3' ou 4' occid. En Tartarie elle s'appelle encore la rivière *Changton*. Parmi les restes des villes qu'on voit sur cette rivière *Changton* sont celles de *Tchao naymen Goumen* vues par les PP. GERBILLON, THOMAS, RÉGIS, JARTOUX, PARRENIN et autres au nord de la rivière *Changton*. Latit. 42° 25', Longit. 10' ou 12' occid.

XIV.

De l'endroit où Gentchiscan mourut et de celui où il fut enterré ¹⁾.

L'histoire du *T'ong kien kang mou* assure que Gentchiscan mourut sur la montagne *Leou pan* dans le Chenzy. La grande histoire des Mongou dit que vers l'endroit de *Leou pan* il tomba malade, mais qu'il fut transporté à *Salikor* ou *Salikouré*, et qu'il y mourut, or *Salikouré* ou *Salikor* est dans le pays entre les sources du *Toula*, *Kerlon*, et *Onon*. Les Chinois ont appelé ce lieu *Salé Tchouen*. *Kouré* veut dire lieu où sont plusieurs étangs, sources d'eau, lieu entouré d'eau. Ce mot est *mongou Tchouen* ²⁾ en chinois exprime en général un lieu aqueux, etc. Dans cet endroit il y avoit au

1) [Voir *Marco Polo*, éd. Yule-Cordier, I, pp. 246—250.]

2) La situation de *Salicor* ou *Salicouré*, ou *Salitchouen*, est clairement marquée dans la grande histoire des Mongou, et dans la Géographie chinoise faite du temps de la dynastie passée.

palais. Pour le lieu de la sépulture, il paroît aussi qu'il est vers la source du fleuve *Onon*, *Toula*, et *Kerlon*. Il est certain que c'est le pays des ancêtres de Gentchiscan. On l'appelle aussi *Ilan pira* en mantchoux, ou 3 rivières, et le mot mongou répond à celui là. Un mandarin des plus considérables parmi les *Mongou* a assuré au P. PARRÉNIN que c'étoit là la sépulture de Gentchiscan, et la même chose a été encore assurée par un prince *mongou* de la race de Gentchiscan, et j'étois présent quand il dit cela au P. PARRÉNIN.

XV.

Des ancêtres de Gentchiscan.

Dans un endroit de l'histoire des *Mongou*, on voit que *Gentchiscan* assure que le pays où sont les sources des rivières *Toula*, *Kerlon* et *Onon* est le pays natal de ses ancêtres, et c'est pour cette raison que les 1^{ers} princes *mongou* alloient si souvent à la source du fleuve *Onon*, soit pour honorer leurs ancêtres, soit pour assembler les princes de leur famille.

Tian che est le 1^{er} prince *mongou* selon l'histoire secrète des *Mongou*. Selon la même histoire *Tian che* n'eut pas de mère, et c'est le ciel qui l'engendra.

Tsan che se maria avec une fille appelée *Tsan pe*. Ils passèrent la mer Caspienne, et vinrent habiter à la source du fleuve *Onon* ou *Sahalien oula*.

Patatche han fut le fils et l'héritier de *Tsan che*. *Patatche han* fut père de *Tamatchay*. Le 12^e descendant de *Tamatchay* fut *Poutangear*. Le 13^e descendant de *Poutangear* fut *Temougin*. C'est celui qui se fit proclamer Empr. à la source du fleuve *Onon* l'an de J. C. 1206.

La grande histoire des *Mongou* parle d'un excellent tireur de flèche appelé *Topon*, prince *mongou*. *Topon* épousa la princesse

Alun koua, et en eut 2 fils. L'aîné s'appelloit *Poutou Ataki*, le cadet *Pouhoutchi Salitchi*.

Topon étant mort la princesse *Alun koua* fut plusieurs fois frappée d'une lumière angélique, et sans commerce avec les hommes, elle eut 3 fils. Le 1^{er} *Pouhataki*, le 2. *Ponlatche*, le 3^e *Poutangear*. Après la mort de *Alun koua*, les fils de *Topon* chassèrent de leur habitation *Poutangear*, il se retira à *Palihon*.

Pouhoutchi craignant que son frère *Poutangear* ne mourut de faim, le chercha, et fut agréablement surpris de le trouver en bonne santé et ne manquant de rien. Les peuples de *Tonkili houlou* n'avoient pas de maître, *Poutangear* ¹⁾ avec le secours de ses frères fils de *Topon*, s'en rendit maître. Le pays de *Tongkili*, et celui où étoit *Topon* sont supposés au nord du désert.

Le fils héritier de *Poutangear* fut *Capitchi*, d'autres l'appellent *Pasiliton Apitcho*.

Capitchi fut père de *Mahatoutan* ²⁾.

Mahatoutan épousa la princesse *Monalun*, et il en eut 7 fils. L'aîné s'appelloit *Kinatourhan*, et le 7^e s'appelloit *Natchin*. *Natchin* se maria dans le pays de *Pargou*. *Monalun* perdit le prince son époux et demeura veuve.

Durant son veuvage, les peuples de *Yalair* venoient faire le dégât dans les terres des fils de *Mahatoutan*. *Monalun* maltraita les *Yalair*. Ceux ci s'en vengèrent et tuèrent *Monalun* avec ses six 1^{ers} fils.

Hay tou fils de *Kinatourhan* fut sauvé par sa nourrice. *Natchin* secourut son neveu *Hay tou*. Les *Yalair* furent punis, et *Natchin* étant mort, *Hai tou* fut maître du pays de *Yalayr*, et de *Pargoux*.

Natchin eut 2 fils chefs de horde, l'un s'appelloit *Outsay*, et l'autre *Outou*.

1) La plupart des histoires des Mongou ne donnent à *Alunkoua* qu'un fils miraculeux qui est *Poutangear*.

2) D'autres l'appellent *Tangmatoutan*.

REMARQUES.

1. Le pays de *Pargou* est vers les lacs *Coulou* et *Pouyr*. La rivière près de laquelle campe ordinairement le roy d'*Oukimoutsin*, porte le nom de *Pargou*, aussi bien que celui de *Houlougour*.

2. Une histoire tartare dit que les *Yalayr* arrachioient la plante appelée *Ginseng*, or selon le P. JARTOUX ¹⁾ cette plante n'est que dans les pays qui sont entre le 39° et 47° de latitude boréale, et le 10° et 20° de longitude Est de Peking. Si cette circonstance du *Ginseng* est vraie, on voit en gros au des pays de *Monalun*. Je ne say où est le pays des peuples *Yalayr*. La grande histoire des *Mongou* ne dit rien de ce *ginseng* et je ne say pas où l'a su celui qui l'a dit aux *mancheoux*.

3. On ne rapporte pas les fils et descendants des 2 fils de *Topon* ni de 2 frères miraculeux de *Poutangear*.

Hay tou fut père de *Paichongor*. *Paichongor* fut père de *Tunpinaj*. *Tunpinaj* campoit le long du fleuve *Onon*, et il prit à son service les ancêtres de l'illustre *Soupoutay*; *Tunpinaj* fut père de *Kopouluhan*; les 5 1^{ers} fils de *Tunpinaj* furent *Koyeouhou*, *Kaoulakilihen*, *Hatchan*, *Alalafan*, *Cochchoen*, tous chefs de horde; le 6^e fut *Kopouluhan*.

Kopouluhan eut 7 fils. Le 1^{er} *Tchankinpalaha* fut chef de horde, 5 autres n'eurent pas d'enfants et le 2^d fut l'héritier, ce fut *Palitan*, ou *Parthay*.

Palitan eut 4 fils le 1^{er}, le 2^d et le 4^e, n'eurent pas d'enfants chefs de horde, le 3^e fut *Yessoukay*. *Yessoukay* eut pour 1^{er} fils *Kiououen*, appelé depuis *Gentchiscan*.

Yessoukay fut puissant et se rendit maître de beaucoup de hordes. Il faut remarquer que *Gentchiscan* naquit l'an 1162.

1) Recueil des *Lettres édifiantes* imprimé en 1713.

REMARQUES.

1. M. d'HERBELLOT dans sa *Bibliothèque orientale* parle de *Alunkou*, de *Poutangear*, de *Monahou* ou *Menolon*, de *Caidou* ou *Haytou*, de *Paichongor* ou *Borisaukor*, de *Tumpinay*, ou *Toumena*, de *Koupoulou*, ou *Kohlah*, &c. Voyez ces titres.

2. L'histoire chinoise marque qu'en 1135 les *Kin* eurent guerre avec les *Mongou*, qu'en 1139 les *Kin* furent battus par les *Mongou* vers le fleuve *Sougari*, et qu'en 1147, les *Kin* furent obligés de céder beaucoup de places aux *Mongou*. L'histoire place dans ces endroits les *Mongou* au nord des *Kin* ou *Nutche*. En 1147 le chef des *Mongou* prit le titre d'empereur.

3. Le pays d'où sortirent les *Nutchen* ou *Kin* qui furent maîtres de la Tartarie et d'une partie de la Chine, est aux environs de la rivière *Altchoukou*. Source 44° 56' de latit. 11° Est de Peking. Embouchure dans le *Sougari* Latit. 46°. 10° 30' Est de Peking. La guerre des *Kin* et des *Mongou* se faisoit au nord du *Sougari* et les *Mongou* ne voulurent pas reconnoître en 1147 les *Kin*.

4. Mr. d'HERBELLOT dit que *Cobla*, ou *Kopouluhan*, fils de *Toumenah*, ou *Tumpinay* eut guerre avec *Altounkhan*. J'ay fait voir que *Kan* et *Can* et *Han* étoit le même que *Roy*; j'ai aussi fait voir que *Altoun* veut dire or, comme aussi bien que *Kin* 金. Ainsi c'est comme si M. d'HERBELLOT disoit que *Cobla* eut guerre avec le Roy des *Kin*.

5. L'histoire chinoise à l'an de l'élévation de *Gentchiscan* rapporte qu'auparavant les *Mongou* étoient tributaires des *Kin*, qu'ils l'avoient été des *Leao*, et que leur pays étoit au nord du *Petcheli* et du *Leaotong*, et s'étendoit jusqu'aux pays des *Hoey hou* à *Holin* et à ceux des *Nayman*. De là il faut conclure que les *Kin* après l'an 1147 reprirent le dessus et souvirent les *Mongou*.

6. Les *Mongou* issus de *Poutangear* étoient divisés en beaucoup

de hordes. Celles qui dépendoient de *Gentchiscan* dans le temps qu'il étoit sous la tutelle de sa mère étoient voisines de *Salitchouen*. Les hordes de *Taitchou* et de *Samouho* étoient voisines de celles de *Gentchiscan*, mais vers l'est. Celles de *Kerit* étoient vers l'ouest, et vers le sud de celles de *Gentchiscan*. *Yesoucaï* avait donc sa horde principale à *Soli*, puisque c'étoit le pays que *Gentchiscan* conserva toujours, même dans le temps que plusieurs hordes soumises à son père l'abandonnèrent.

7. Les princes Tartares que *Tchamouho* ou *Samouho* anima contre *Gentchiscan* sont marqués nettement habiter près des rivières *Ergoné*, et *Ken*. *Ken* vient de l'est et se jette dans l'*Ergoné*.

8. A *Toro*¹⁾ les princes ligués contre *Gentchiscan* et *Toly* roy de *Kerit*, élurent *Tchamouho*, *Tchorkan*, ou *Korean* c'est à dire Roy du Nord du désert.

9. Après la mort de *Yesoucaï* les princes mongou issus de *Poutangear* étoient indépendants les uns des autres, et il paraît qu'ils avoient accoutumé d'avoir comme un chef de la famille à qui ils devoient des redevances. *Gentchiscan* avoit refusé d'être regardé comme le chef de tous, n'étant pas si près en ligne directe que plusieurs autres princes mongous, de *Copouluhan* et de *Turpinay*. Ces princes plus près de la tige étoient *Anton*, *Housar*, *Talitay*. Ils cédèrent à *Gentchiscan* comme le plus en état de gouverner. Ils s'en repentirent depuis, et s'unirent au Roy de *Kerit* et à son fils contre *Gentchiscan*.

10. 2 cousins germains de *Gentchiscan* appelés *Satchin* *Tcheou* et *Satchin* *poucou* ne voulant pas suivre *Gentchiscan* à la guerre contre les Tatar, et contre les *Nayman* furent tués par ordre de *Gentchiscan* comme des rebelles. Il pourroit se faire aussi qu'ils fussent frères de *Gentchiscan*, mais fils d'une autre princesse. Car il est

1) C'est une rivière.

marqué ailleurs que ces 2 princes *mongou* étoient frères de *Gentchiscan* et qu'ils avoient résolu d'exterminer les enfans de la princesse *Yuelun* mère de *Gentchiscan*.

11. *Yesoukuy* ne dépendoit en rien du roy de *Kerit*, mais *Gentchiscan* fut d'abord sous la protection du roy de *Kerit*, et il paroît qu'il s'étoit fait comme son vassal afin de se maintenir. Une histoire dit que *Gentchiscan* dépendoit de *Tayang* roy des *Nayman*. Il est difficile de parler juste sur l'ordre et la suite des actions et des évènements avant l'installation de *Temougin*. Tous les princes *mongou* n'avoient ni villes ni villages, et il est presque impossible aujourd'hui d'assigner la grandeur des pays qu'ils possédoient. Il est certain que plusieurs d'eux changèrent plusieurs fois de demeure selon la commodité de l'eau et du fourrage.

12. Les *Mongous* avoient unanimement qu'ils viennent de *Poutangear*, que *Gentchiscan* est leur 1^{er} Empr., et que la horde natale et primordiale des ancêtres de *Gentchiscan* fut au Nord du désert, près des rivières *Toula*, *Kerlon* et *Onon*. Quand je dis *Mongou*, j'entens les princes de la famille de *Gentchiscan* d'où sont sortis tous les princes appelés *Kalca* et la plupart de ceux qu'on appelle proprement *mongou*.

13. En examinant l'histoire chinoise on trouve que depuis la dynastie des *Tsin* avant J. C. jusqu'à celle d'aujourd'hui, ces peuples de l'une et l'autre Tartarie ont changé très souvent de maître, et que les princes qui les ont soumis n'étoient dans leur origine que des seigneurs particuliers de horde qui par leur autorité, leur bravoure, et autres belles qualités, savoient s'attacher les hordes, et donnoient à tous les peuples qu'ils soumettoient le nom particulier de leur horde.

14. L'histoire de ces peuples tartares a une liaison essentielle avec l'histoire des Chinois, et éclaircit en une infinité d'endroits l'ancienne histoire des Turcs, Persans &c.

Je vous prie de vous souvenir que tout ce que je vous envoie, soit dans l'histoire, soit dans ces 11 feuilles d'éclaircissements, ne sont que des mémoires dont vous ferez l'usage que vous jugerez à propos. Je n'ai pas les choses nécessaires pour donner au tout l'ordre et le tour qu'on souhaitteroit. J'ay fait ce que j'ay pu, achevez le reste.

MÉLANGES.

BURNING-LENSES IN INDIA.¹

A burning-lens is mentioned, and its utilization is demonstrated, in the story of King Virūḍhaka, contained in the Tibetan biographies of Buddha. This story was first disclosed by A. SCHIEFNER² from the Tibetan *Life of Buddha*, compiled in 1734 by Rin-chen-cho-kyi rgyal-po. When the cruel king Virūḍhaka had vanquished and slaughtered the Cākyas, Bhagavat betook himself to Cāvasti, where he dwelt in the Jetavana, and predicted that Virūḍhaka in the course of seven days would be consumed by fire and be reborn in Hell. The king built a palace of several stories in the water and lived there; on the seventh day, however, the sun struck a burning-lens which belonged to the royal consort, whereupon the king and Ambharisha were seized by the flames, with loud cries for help [perished, and] were reborn in the hell Avici.³ This story is embodied in the Vinaya, as translated in the Tibetan Kanjur (vol. X), where it is narrated at greater length and with more details. In the rendering of L. FERN,⁴ the relevant passage runs thus: "Sur ces entrefaites, le temps s'éclaircit, les rayons du soleil domèrent sur le verre ardent; il se produisit un feu qui gagna le coussin; du coussin, il se communiqua au pavillon." Finally we read in ROCKHILL's *Life of the Buddha*, translated from the Kanjur, as follows (p. 422): "When Virūḍhaka's messenger came and told him what the Buddha had said, he was filled with trouble. Ambharisha comforted him with the assurance that Gautama had only said this because the king had killed so many of his people. Moreover, he advised him to have a kiosque built in the water, and there to pass the seven days. The king followed his

¹ Compare this volume, pp. 216—223.

² *Tibetische Lebensbeschreibung Cākyamuni's*, p. 59 (St. Petersburg, 1849).

³ The Tibetan text (fol. 337b) runs as follows: de-na bloom idan gñas mñan-yod-du gñog-am rgyal-hyed ts'al-na tsang-te | ap'age-skyes-po lag bñan-na mes ts'ig-te dmyal-bar skye-bar lañ bñan-pa | des t'oi nañ-du k'ah bñas tsang-te adag-pa ñañ | lag bñan-pai ts'e na bñan-moi me ñel la ñe-ma p'og-pa rgyal-po ñañ ma-la gñod mes ts'ig-nañ o-dod apod bñan-par mñar-med-du skyes-so.

⁴ *Fragmenta extracta du Kandjour (Annales du Musée Oriental, Vol. V, 1883, p. 76).*

advice, and retired to the kiosque with all his harem. On the seventh day, as they were preparing to return to Çrāvastī, and the women were arraying themselves in all their jewels, the sky, which until then had been overcast, cleared up, and the sun's rays falling on a burning-glass which was on a cushion, set fire to the cushion, and from that the flames spread to the whole house. The women ran away and made their escape, but when the king and Ambharīsha tried to do likewise, they found the doors shut, and with loud cries they went down into the bottomless hell."

It appears from these texts that the burning-lens was mentioned in the Sanskrit original from which the Tibetan translation was made. The lens is styled *me śel* (literally, "fire crystal"), which was indicated by the writer as the Tibetan term (this volume, p. 222). The fact that in this case a burning-lens is really understood may be proved beyond doubt from another Tibetan-Sanskrit text. The story of Virūḍhaka is recorded in the *Avadānakalpalatā* (No. 11), and here we meet likewise the lens, called in Sanskrit *śūryakāṇṭha* (this volume, p. 217), in the Tibetan version *me śel*.¹ In the Tibetan prose edition of the same work (p. 48) it is said that the lens belonged to the ornaments of the house, that it was hit by the sunlight, that thus fire broke out in the building, and everything was burnt up (*k'añ-pa'i rgyan la me śel yod-pa-la űi-mai mladṣ p'og-pas rkyen byas | k'yiṁ-la me śor-ma-kun t'ig-go*). The versified recension is briefer and simply says that through the concentration of the solar rays in the lens the conflagration was effected (*me śel űi-mai od-dag-gi sbyor-bas me ti rab-tu ghar*). The *Avadānakalpalatā* was compiled by the Kashmirian poet Kaśhemandra, who lived around 1040 A.D. from older collections of Avadānas, and was translated into Tibetan in 1273.

Huan Tsang, while visiting the kingdom of Çrāvastī, was shown the dried-up lake in which Virūḍhaka was said to have perished. In the pilgrim's narrative no allusion is made to a lens, but according to him the waves of the lake suddenly divided, flames burst forth, and swallowed the boat in which the king was.²

The Sanskrit term *śūryakāṇṭha* is rendered into *me śel* also in the Tibetan translation of the *Lalitavistara* (chap. 15; ed. of FOUCAUX, Vol. I, p. 157, line 15; Vol. II, p. 190), but a precious rock-crystal, not a burning-lens, is here in question. Compare SCHIEFFER's remarks on this passage in *Mélanges asiatiques*, Vol. I, p. 234.

R. LAUTER.

¹ See the edition of Chandra Das in *Bibliotheca Indica*, Vol. I, pp. 392, 393.

² Compare JAMES, *Mémoires*, Vol. I, p. 307; S. BEAL, *Buddhist Records*, Vol. II, p. 12.

BULLETIN CRITIQUE.

A.-E. LELIÈVRE et CH.-A. CLOUQUEUR, *Pagode de Dakao*;
C. Ardiu, à Saigon (Indochine), 1914. in-fol. pp. 25.

La *Société des Etudes indochinoises de Saigon* dont ce mémoire est une publication a, pour une colonie, un passé assez lointain, car sa création remonte à l'année 1883, époque à laquelle elle prit la place du Comité agricole et industriel de la Cochinchine; en dehors de son Bulletin, elle a donné une série de monographies des provinces formant la colonie et un certain nombre de travaux imprimés séparément dont quelques uns comme l'*Astronomie Cambodgienne* de P.-G. FARAUT ont une véritable valeur scientifique.

Le travail de MM. LELIÈVRE et CLOUQUEUR est consacré à un monument d'origine récente; en effet, la pagode de Ngõc Hông, plus connue à Saigon sous le nom de pagode de Dakao ne date que de 1900, quand les fondations en furent jetées sous la direction de Lu'u Minh, sur l'emplacement de l'ancien Miêu (petite pagode) de Dakao, dont on peut voir un pan de mur, à côté de la souche d'un gros arbre sacré, espèce de banian «cây đa» ou «cây dung». Une légende dont la première partie semble contournée rapporte que «le chinois Lu'u Minh, condamné à un emprisonnement perpétuel pour meurtre de son frère, aurait voué toute sa fortune aux génies bienfaiteurs qui l'avaient délivré de la justice de son pays, en aidant son évasion, et aurait construit la pagode actuelle sur l'emplacement d'un arbre foudroyé qui aurait épargné dans sa chute de nombreuses personnes à l'abri sous son feuillage».

Le nouveau temple ouvert en 1906 est un des plus beaux monuments de la Cochinchine et l'objet modeste de l'étude de MM. Lelièvre et Clouqueur est d'attirer l'attention sur cette pagode dont l'architecture ne présente d'ailleurs aucune particularité curieuse et d'exciter l'intérêt des visiteurs. Nous avons une description détaillée de l'intérieur du monument qui paraît fort riche mais ne me semble pas avoir de caractère spéciale, aussi bien taoïste que consacré à l'Être Suprême, Chang Ti (Thu'o'ng Dê 上帝); il y en a nombre de semblables en Chine. Cette publication me paraît avoir sans doute servi de prétexte à la reproduction en noir et en couleurs des dessins de l'un des auteurs, M. Clouqueur, qu'il est intéressant de voir rendus avec la plus parfaite fidélité par une imprimerie locale.

Henri Cordier.

Bernhard KARLÖREN, *Études sur la Phonologie chinoise*. I. Leyde et Stockholm (Norstedt & Söner), 1915. in-8 de 388 pages; — réimprimé, avec addition des pages 389—469, dans les « Archives d'Études Orientales », vol. XV, livraisons 1 et 2 (Upsala, chez K. W. Appelberg, 1915 et 1916).

Dans le domaine de la Sinologie, parmi les exposés systématiques relatifs à l'art, l'histoire, l'archéologie, il manquait jusqu'ici un livre de phonétique. C'est cette lacune que M. KARLÖREN a voulu combler en publiant ses recherches. De ce chef, son œuvre acquiert une importance toute spéciale, et nous nous proposons ici d'abord d'en faire connaître l'existence aux sinologues, ensuite d'en donner une courte analyse.

Dans une Introduction, l'auteur fait un examen critique des travaux antérieurs relatifs à l'étude linguistique du chinois, puis il définit comme suit les trois buts de ses recherches :

1° Reconstruire de l'ancien chinois ce qu'il est nécessaire d'en savoir pour donner une base à l'étude historique du chinois.

2° Etudier la phonétique des dialectes modernes.

3° Retracer l'évolution du chinois jusqu'aux dialectes actuels.

D'où trois parties dans l'œuvre de M. Karlgren. La première est relative à l'ancien chinois — c'est-à-dire la langue du Ts'ie yun (601 ap. J.-C.) —. Elle n'étudie point celui-ci d'une façon systématique et indépendante, mais après avoir indiqué les sources de nos connaissances sur l'ancien chinois, elle suit point à point l'étude que M^r SCHAANK a fait paraître sur la question dans le *T'oung Pao* (1^{re} Série. VIII et IX) il y a une quinzaine d'années. Cette partie est donc conçue comme une discussion impartiale, mais impitoyable des opinions de M^r Schaank. L'auteur y étudie d'abord les *initiales*; il donne la valeur de celles-ci dans les quatre divisions phonétiques du chinois, puis il éclaireit des problèmes particuliers relatifs à ce sujet (la tendance des dentales yodisées vers les palatales par exemple). Il passe ensuite à l'étude des *finales*, à propos desquelles se posent les importants problèmes de l'i médial et de la voyelle principale. M. Karlgren donne enfin un exposé des groupes phonologiques de l'ancien chinois. Ce sont, précédés d'une explication, cent pages de tableaux où environ 3.100 caractères de la langue sont rangés, d'abord d'après leurs initiales, ensuite d'après leurs finales, de manière à ce que leur position fasse connaître immédiatement leur place dans les anciennes classifications phonétiques chinoises; leur *hâ k'èoh*, leur *k'ai k'èoh*, etc.

Dans une deuxième partie, M. Karlgren étudie la phonétique descriptive des dialectes modernes. Les préliminaires posent une excellente introduction à l'étude phonétique de 33 dialectes chinois. L'auteur dit quelques mots de la prosodie moderne, et aborde enfin la phonétique qualitative des dialectes envisagés. Dans ce chapitre, tous les sons possibles sont présentés méthodiquement, et à propos

de chacun d'entre eux, M. Karlgren dit: 1^o quelle est leur nuance, 2^o quels sont les dialectes où ces sons sont représentés.

Dans une troisième et dernière partie, dont ce livre ne donne que le commencement, l'auteur expose ses études historiques, qui sont en définitive le but de l'étude linguistique du chinois. Ce travail, basé sur le classement phonétique de l'ancien chinois, passe en revue les initiales, et à propos de chaque groupe d'entre elles, dit ce qu'elles ont donné dans les dialectes modernes (principes généraux, exemples, exceptions), puis étudie des problèmes particuliers à chacune de ces initiales, tels que le lien d'articulation, la sonorité et l'aspiration, la transformation de nasales en orales, etc.

Tel est dans son état présent le travail de M. Karlgren. Deux choses en lui peuvent retenir notre attention: d'abord les spéculations sur l'ancienne langue et sur son évolution, ensuite l'exposé positif des dialectes modernes. Sur la première question, nous ne pouvons rien dire, parce qu'il n'y a rien là encore d'absolument définitif. Le livre de M. Karlgren est à ce point de vue un ensemble d'études documentaires bien plus qu'un manuel systématique; l'auteur dit lui-même à plusieurs reprises qu'il présente des hypothèses fondées sans doute, certes bien supérieures à celles de M. Schaank, mais qui enfin ne peuvent être encore définitivement reçues (voir ce que dit M. Karlgren, page 90). Nous tenons en outre à faire observer que M^r Schaank, en dépit de ses erreurs, reste un auteur sinon très solide, du moins très méritoire. Les critiques ont trop tendance à juger les travaux déjà anciens à la lumière des connaissances actuelles et récemment acquises. Les recherches de M^r Schaank, envisagées du point de vue de l'état de la sinologie en 1897, ont le double mérite d'être l'œuvre d'un défricheur qui aborde le premier la question phonétique scientifiquement, et de mettre en évidence chez M^r Schaank un «flair» sinologique, qui est peut-être la première des qualités pour un savant. M^r Karlgren le reconnaît d'ailleurs très

volontiers et nous nous permettons d'attirer sur ce point l'attention des sinologues phonéticiens qui seraient enclins à regarder avec dédain les travaux de M^r Schaank. Au surplus, cette question ne sera étudiée de près que par les personnes qui portent un intérêt particulier aux problèmes linguistiques. Au contraire, la deuxième question relative à la phonétique descriptive des dialectes modernes, intéresse la totalité des sinologues, parce qu'elle touche à l'important problème des *transcriptions*, et qu'elle permet d'en entrevoir une solution peut-être définitive. Les systèmes de transcription ne sont pas rares, mais leurs auteurs se sont jusqu'ici efforcés d'atteindre au maximum de commodité pour leurs compatriotes. Il en est finalement résulté des systèmes nationaux, tels que celui de Sir Th. Wade en Angleterre et celui de M. Vissière en France, qui sont à peu près généralement adoptés aujourd'hui, du moins avec de légères modifications. Ces systèmes sont chacun assez parfaits dans leur genre, mais ils ne le sont que pour un seul pays. Il est singulièrement déroutant pour l'apprenti sinologue qui lit le *Troung Pao* par exemple, de voir le caractère 書 écrit *chou* et *shu*, et quand il lit un texte anglais, il est exposé, en rencontrant la transcription *chou*, à s'imaginer qu'il s'agit du livre; alors qu'en réalité il est question de la dynastie des *Teheou*.

M. Karlgren part d'un tout autre principe. Il envisage tous les sous possibles, qu'il représente au moyen d'un alphabet phonétique spécial, et il note quels sont ceux qui existent en chinois. Seul, ce système permet de s'occuper de l'étude phonétique du chinois. Mais ce point de vue n'intéresse que les linguistes. Au contraire tous les sinologues pourront faire leur profit de cette innovation en adoptant le procédé de transcription de M. Karlgren. L'alphabet phonétique dont il se sert est d'une précision absolue, et a fait ses preuves depuis une vingtaine d'années dans l'étude des dialectes suédois, qui est, paraît-il, remarquablement avancée en Suède. Mais sa pré-

cision même, qui est précieuse au linguiste, gêne le sinologue en ce qu'elle voile l'essentiel. Aussi M^r Karlgren a-t-il établi, à côté de l'alphabet dialectal, une notation grossière, dont chacun des caractères est comme un chef de groupe qui englobe un certain nombre de nuances représentées par l'alphabet dialectal, et à l'usage du seul linguiste. Ainsi le caractère de la notation grossière *ſ* englobe les nuances *ſ*, *ſ*, *ſ*. Mais ces lettres de la notation grossière, si elles n'ont pas la précision que réclame un linguiste, sont du moins d'un emploi parfaitement logique; elles ne représentent chacune qu'un seul son, et elles fixent la prononciation dans des limites bien déterminées. C'est au sinologue à savoir jusqu'à quel point il désire s'intéresser au détail. Pour donner quelques exemples 書 s'écrira *ſu*, 同 *t'ug*, 江 *ſſiaſ*, dans le mandarin du nord. On écrirait donc *t'ug pau*, au lieu de *t'oung pou*. Ce système, parfaitement international, n'exige d'ailleurs qu'un assez petit nombre de caractères spéciaux: *j*, *ſ*, *t*, *ſ*, *ſ*, *ſ*. Les autres appartiennent aux alphabets latin, grec, russe; il est donc facile à une imprimerie de se les procurer. Les sinologues qui s'intéressent à cette question devront se reporter à l'ouvrage de M. Karlgren, où le système est exposé avec toute la clarté désirable.

Cet ouvrage n'est d'ailleurs point terminé; il reste à publier la fin des études historiques, qui comprendra la suite de l'étude des initiales, l'étude des tons, des finales, la revue des fonds d'initiales, de tons et de finales des *dialectes modernes*; enfin suivra un «registre compréhensif», qui donnera pour 3100 caractères environ, classés par clefs, leur place dans les anciens groupements phonologiques et leur prononciation dans les 33 dialectes étudiés.

Telle sera cette œuvre magistrale, la première sur le sujet qui soit exposée systématiquement et complètement, et qui sera le livre indispensable à l'étude linguistique du chinois. Tous les sinologues accueilleront avec une vive satisfaction la publication d'un ouvrage

qui était jusqu'ici encore à faire; tout au plus regretteront-ils que l'exposé de l'ancien chinois, en raison de l'insuffisance des connaissances actuelles sur la question, demeure inaccessible, ou presque, à l'étudiant qui *aborde* ce problème, alors que, par ailleurs, le reste de cet ouvrage constitue un excellent manuel d'étude pour l'élève phonéticien. Quoi qu'il en soit, les sinologues attendront avec impatience la suite d'un travail qui promet tant par ses débuts.

R. GERMAIN.

BIBLIOGRAPHIE.



LIVRES NOUVEAUX.

Le *Bulletin de l'Ecole française d'Extrême-Orient*, T. XIV, renferme: No. 8, un *Rapport sommaire sur une Mission archéologique au Tchô-kiang*, par Henri MASPERO, étude très-importante qui nous conduit à Hang teheou, Chao Hing, Yu Yao, Ning Po, P'ou to, Hai men, T'ai Tcheou, T'ien Tai, Sin Tch'ang et Tch'eng Hien. — No. 9, Bibliographie, Chronique, Documents administratifs, Index et Table.

Nous avons reçu des Douanes maritimes chinoises: *Returns of Trade and Trade Reports*, 1914. — Part II. — *Port Trade Statistics and Reports*. — Vol. II. *Yangtze Ports* (Chungking to Chinkiang).

Nous avons reçu les travaux de l'Institut Oriental de Vladivostok :

1915 — № 9. — Томъ 59, вып. 1-й. В. С. Шапошниковъ. Сравнительныя таблицы русскихъ, метрическихъ, англійскихъ, американскихъ, японско-корейскихъ и китайскихъ жръ и монетныхъ паритетовъ.

Vient de paraître le *Catalogue du Fonds tibétain de la Bibliothèque Nationale* par le regretté Dr. P. CORDIER; il renferme la troisième partie Index du *Butan-hgyur* (Tibétain 180—332); il comprend en réalité l'inventaire sommaire des 153 derniers tomes du *Butan-hgyur* (Rgyud-hgrel, LXXI—LXXXVI, et Mdo-hgrel, I—CXXXVII). L'œuvre reste malheureusement inachevée: l'index du *Kandjour* devait former le Vol. I du Catalogue; l'index des noms propres, personnels et

géographiques devait compléter la quatrième partie du Catalogue, consacrée à la description des œuvres détachées et des manuscrits. Nous avons avec les deux volumes du Dr. P. Cordier l'analyse du *Tandjour* devant laquelle semblent avoir reculé Osome de Kōsōs et I. J. SCHMIDT qui ont publié des tables du *Kandjour* permettant aux travailleurs de retrouver les textes qui les intéressent dans cette collection.

Deux nouveaux volumes (IX et X) du grand ouvrage que consacre le R. P. Henri DONÉ à ses *Recherches sur les Superstitions en Chine* viennent de paraître dans la collection des *Variétés Sinologiques* (Nos. 44 et 45); ils contiennent la suite du *Panthéon chinois*: Chapitre IV, Dieux. Immortels. Génies, (Taoïsme); Chapitre V, Ministres transcendants. On sait que l'ouvrage comprendra trois parties: la troisième partie sera consacrée au Confucianisme, au Taoïsme et au Bouddhisme; on voit la quantité énorme de documents qu'il renfermera.

En septembre 1910, les professeurs du collège de Zi-ka-wei firent lithographier une sorte de petite revue scolaire, de caractère à la fois modeste et intime. Le but en était double: 1) renseigner les missionnaires ayant placé des élèves à Zi-ka-wei sur la vie menée au collège par leurs protégés; 2) tenir les professeurs et les surveillants, trop occupés pour lire beaucoup, au courant de la campagne scolaire en Chine. Le revue prit le nom d'*Ephémérides*. Elle n'eut pas d'abonnés, et n'en voulait pas avoir. Un certain nombre de numéros, portant la suscription «Circulation privée», furent envoyés à titre gracieux, à ceux des missionnaires du Kiang-nan qui manifestèrent le désir de les lire. La revue vécut quatre ans, de 1910 à 1914. Une évolution rapide en modifia vite le contenu. La partie collégiale, concernant Zi-ka-wei, très développée au début, fut notablement réduite dès la deuxième année, et davantage encore

les années suivantes; en revanche, la partie générale, contenant les renseignements pédagogiques, les comptes rendus d'articles sur l'éducation, l'histoire des fondations scolaires protestantes et païennes, s'accrut considérablement. Cette transformation progressive de la revue eut pour résultat de lui donner un intérêt plus général et fit penser à plusieurs qu'il y aurait profit à poursuivre dans le même sens, et, dès lors, à tirer les *Éphémérides* de leur obscurité voulue pour en faire une véritable revue pédagogique. Le nom de l'*École en Chine* a été substitué à celui d'*Éphémérides*. La nouvelle revue commencera sa publication le 10 septembre, et paraîtra le 10 de chaque mois, sauf en juillet et en août, en fascicules in-8 d'environ 60 pages. Un numéro spécimen hors série a paru en juin; il comprend entre autres articles: *L'Eglise et l'École en Chine*, par RENÉ JEANNIÈRE, *La Législation scolaire actuelle en Chine*, par JÉRÔME TOBAR, *L'Hygiène à l'École*, par J. N., etc.

ORIGINE DES CHINOIS.

THÉORIES ÉTRANGÈRES

PAR

HENRI CORDIER. ¹⁾

Les origines de la nation chinoise ne peuvent être placées dans une antiquité aussi reculée que celles d'autres pays comme la Babylonie, l'Elam, l'Égypte, mais son histoire offre une continuité et une durée que l'on chercherait vainement dans une autre. Nous n'avons pas en effet pour éclairer les débuts de cette histoire, des monuments de pierre d'une authenticité aussi indiscutable, par exemple, que le Code d'Hammourabi, la Stèle des Vantours et les hypogées d'Égypte. L'archéologie préhistorique qui commence à éclairer d'un jour nouveau l'histoire pré-dynastique de l'Égypte, n'a pas encore arraché ses secrets au vieux sol chinois, et jusqu'à ce jour, tout ce qu'on a écrit sur les relations dans un passé lointain de l'Extrême-Orient avec l'Occident n'est qu'hypothèses et théories trop souvent absurdes.

En réalité le problème non encore résolu de l'antiquité la plus éloignée de l'apparition de l'homme sur une terre infiniment plus ancienne que nous ne l'avions cru jusqu'ici se pose avant le problème de l'origine de la civilisation. Contentons-nous aujourd'hui de la petite lacune qu'ont projetée les travaux récents de la géologie

¹⁾ Forme le Chapitre I d'une *Histoire générale de la Chine*.

et de la préhistoire sur les débuts de l'humanité, sur ce que nous considérons comme le fatras de nos ancêtres, en attendant que nos descendants à leur tour traitent nos conceptions de billevesées. La vérité est toujours en marche, mais elle chemine si lentement que l'homme de nos générations aura probablement disparu avant de l'avoir connue entière.

Les géologues nous apprennent qu'aux époques anciennes, une mer intérieure, appelée la Thétys, séparait l'arc sibérien d'Irkoutsk des hautes cimes de l'Himalaya, les terres septentrionales des terres méridionales de l'Asie, le continent de l'Angara au nord, du continent de Gondwana au sud. Cette grande mer intérieure faisait communiquer l'Atlantique, par la Méditerranée, avec le sud-est de l'Asie. Peu à peu cette immense masse d'eau fut brisée au milieu de l'époque tertiaire, les deux terres boréale et australe se soudèrent constituant le continent asiatique qui s'affaissant, au nord donna naissance à la plaine sibérienne, au sud à l'Océan indien, conservant une vaste mer intérieure, elle-même peu à peu transformée en une série de mers et de lacs qui durèrent jusqu'au jour où le manque de communications avec l'Océan, de la vaste nappe liquide des temps anciens fit un désert aride. A ce dessèchement progressif ont correspondu probablement des migrations successives de peuples, des périodes de barbarie succédant à des périodes de civilisation.

Longtemps avant les dates assignées aux civilisations de la Babylonie et de l'Egypte, l'homme vivait dans des oasis transcapiens, par exemple à Anau, près d'Askabad : il habitait déjà dans des villes, cultivait le blé et l'orge et commençait à élever et à domestiquer les animaux qui pouvaient lui être utiles ; cette civilisation disparut devant le dessèchement de la région, amenant des migrations qui sont peut-être l'origine des civilisations de la Babylonie et de l'Egypte considérées par l'historien et l'archéologue comme les plus anciennes du monde, alors que le géologue seul nous révèle l'existence

d'Anau¹⁾. Le témoignage de la nature est moins sujet à erreur que le témoignage de l'homme. A quelle époque l'homme, dont nous ignorons encore l'antiquité, a-t-il paru sur cette terre d'Extrême-Orient, qui constitue aujourd'hui l'Empire chinois? Problème jusqu'au présent insoluble, et qui le restera peut-être toujours. L'intelligence de l'homme mise au service de la science est comme celle-ci limitée; il arrive un moment où elle se trouve en présence de phénomènes qui lui sont incompréhensibles, alors commence pour lui le surnaturel, variable suivant les progrès de la science et le développement de l'intelligence, suivant le milieu également. Le surnaturel d'une époque et d'une région n'est qu'un phénomène naturel à un autre moment et dans un pays différent.

Il sera facile de constater par la lecture de ces pages que la Chine, ayant peu emprunté et peu rendu, n'est pas néanmoins un bloc resté complètement immuable et intangible à travers les siècles, sans avoir dans une certaine mesure subi et influencé non seulement la civilisation des pays environnants mais aussi celle de ceux qui par leur éloignement paraissaient avoir échappé à tout contact avec le vaste Empire de l'Asie orientale; mais ces échanges réciproques se sont produits au cours des siècles dont nous connaissons l'histoire, plus en détail, au fur et à mesure qu'elle se rapproche de nous, mais dont nous n'ignorons pas, au moins dont nous soupçonnons certaines particularités d'époques fort éloignées de notre temps. Il ne me paraît pas que ces influences puissent remonter à une antiquité fort reculée; dans tous les cas, elles peuvent être placées pendant cette période de l'histoire du monde qui appartient à la période géologique de l'époque actuelle, c'est-à-dire celle où l'homme commence à se rendre maître de la planète sur laquelle il a apparu des milliers d'années auparavant. Des civilisations asiatiques qui nous

1) Cf. Pampelly, *Exploration in Turkestan*, I, 1908, pass.

sont aujourd'hui inconnues ou simplement entrevues ont existé avant la période à laquelle appartiennent les faits dont nous nous proposons de retracer l'histoire.

La Chine dont nous écrivons l'histoire aujourd'hui est ignorée dans son antiquité reculée aussi bien de ses habitants que de nous; son passé préhistorique inconnu de nos devanciers, soupçonné depuis peu d'années, devient maintenant une réalité comme celui de l'Égypte. Puis nous constatons l'existence de monuments, tels les menhirs, dont les Chinois eux-mêmes ne signalaient pas l'existence ou méconnaissent la signification. La Chine nous apporte une fois de plus la preuve qu'il ne faut rien nier, sous le mauvais prétexte qu'on n'a rien trouvé; le présent doit vivre dans le doute quand il ne touche pas à la réalité et faire crédit à l'avenir.

L'éloignement, les difficultés d'une longue route de terre ou les périls d'une navigation sur des mers soumises à l'action des moussons, souvent dévastées par les typhons, la faiblesse relative des voisins, l'énormité même de son territoire avaient forcé la Chine à vivre sur elle-même, sans tirer du dehors les choses nécessaires à la vie; elle trouvait également en elle-même les ressources intellectuelles utiles au développement et à la conservation de son génie particulier, et comme toute, en dehors du bouddhisme, elle a peu emprunté, et encore sans continuité et à des époques très différentes, à des éléments étrangers au pays. Les nations qui avaient besoin de sa soie, de sa rhubarbe, de son musc, venaient les chercher; celles qui, au contraire, lui vendaient leur opium, les étoffes de laine et de coton les apportaient. Le Chinois n'avait pas besoin de quitter son pays pour y voir affluer les marchandises étrangères ou pour faire transporter ses produits au loin. Ce qui ne veut pas dire toutefois que, au cours de leur longue existence, les Chinois n'aient jamais éprouvé le besoin ou le désir de visiter les contrées lointaines et l'on verra dans ces pages que soit le zèle religieux

pour les pèlerins bouddhistes, soit l'appât du lucre pour certains négociants, soit des intérêts politiques pour différentes missions comme celles de TCHANG K'ÏEN et de TCHENG HO, soit même une ambition guerrière dans l'expédition de PAN TCH'AO dans l'Asie centrale, ont réussi, mais d'une façon irrégulière, à attirer les Chinois hors de chez eux. Si les Chinois n'ont donc pas vécu complètement séparés du reste du monde, toutefois, sans ignorer l'existence des pays étrangers, même lointains, ils n'en ont jamais eu une notion complète jusqu'à l'époque contemporaine, lorsque la facilité des communications, la durée moindre des voyages ayant placé la Chine à une quinzaine de jours de l'Europe, l'envoi d'étudiants qui ont puisé des idées nouvelles hors de chez eux, l'ont obligée de sortir de son « magnifique » isolement et d'entrer, plutôt de mauvais gré, dans le grand concert international du monde, et l'ont entraînée à étudier sans enthousiasme des problèmes politiques et économiques qu'elle avait négligé de se poser jusqu'alors.

On verra que, si pendant des siècles, pour la Chine, la morale de CONFUCIUS a été le fil conducteur de sa pensée, et la base même du système politique qui a mis à la tête du pays constitué en une vaste famille un empereur « Fils du Ciel », cette nation ne s'est pas figée dans une administration immuable, qu'elle a été comme les autres agitée par de nombreuses révolutions, qu'elle a été gouvernée par différentes dynasties, quelques-unes même étrangères, qu'elle a connu tous les modes de gouvernement depuis l'autocratie impériale jusqu'au socialisme d'Etat de Wang Ngan-che, revenant toutefois à sa civilisation primordiale jusqu'au jour récent où, battu en brèche par les étrangers devenus ses voisins ou qui l'ont trop pénétré, le vieil édifice vermoulu semble s'écrouler devant la pression de l'Occident : reflux d'une marée¹ qui, il y a quelques siècles avait porté jusqu'au cœur de l'Europe les descendants des tribus du nord de l'Empire chinois. Mais que nous réserve l'avenir ?

Une telle histoire est plus propre que n'importe quelle autre à nous faire suivre les vicissitudes des empires et des royaumes, leur développement, leur grandeur, leur décadence. Témoin unique dans l'histoire du monde, la Chine est le seul empire qui ait soutenu jusqu'aujourd'hui l'assaut des ans, du désordre intérieur, de la concurrence et de la rivalité extérieures. Le philosophe, autant, plus même que l'historien, trouve dans l'enchaînement des faits qui constituent sa vie matière à de sérieuses leçons.

L'Europe qui tire la soie de la Chine depuis une haute antiquité n'a longtemps considéré cet empire que comme une terre ayant sa vie propre, ne se rattachant par aucun lien au reste du monde; elle a été l'objet de spéculations fantaisistes de la part de quelques savants et pour la masse des gens elle ne fut qu'une simple curiosité. Claude DUNST, au commencement du XVII^e siècle, dans l'énumération des langues que contient son *Trésor de l'histoire des langues*¹⁾, cite les langues indienne orientale, chinoise, japonaise, sans parler des sons, voix, bruits, langages ou langues des animaux & oiseaux. BOSSUET dans son *Discours sur l'Histoire Universelle* fera une place aux Scythes, mais il passera la Chine sous silence ne soupçonnant pas le rôle que cette masse d'humains a joué dans l'histoire générale du monde dont elle forme le tiers de la population, ignorant ou oubliant que c'est la seule nation dont l'histoire se continue sans interruption depuis les âges les plus reculés jusqu'à nos jours; qu'aux temps lointains de l'Égypte et de l'Assyrie, il existait déjà une Chine et que cette Chine existe encore aujourd'hui. Au XIII^e et au XIV^e siècles, à l'époque de l'hégémonie mongole, le voile mystérieux qui cache cette distante contrée est soulevé par MARCO POLO et quelques zélés missionnaires, mais il retombe pour ne se relever partiellement qu'au XVI^e siècle et ce ne sera qu'au milieu

1) Cologny, 1613, in-8. — Yverdon, 1619.

du XVII^e siècle que les missionnaires de la Compagnie de Jésus comme MARTINI dans son *Atlas sinensis*, nous donneront enfin des notions exactes sur l'Empire du Milieu. Et comme on sera sans doute étonné qu'un chapitre aussi important de l'histoire du Monde ait pu se dérouler pendant des milliers d'années sans que l'Occident y ait en sa grande part, on inventera des relations imaginaires, ou on tâchera de se la rattacher à l'aide de théories abracadabrantes qui poursuivies jusqu'à nos jours donnent un des plus curieux exemples des folies que peut engendrer l'ignorance ou une science insuffisante. Nous allons examiner quelques unes de ces théories par lesquelles les savants d'Europe, désireux de trouver à l'humanité une origine commune, ont cherché à relier la vieille Chine à différents pays de l'Asie antérieure, voire de l'Europe.

Goguet ira trop loin dans son incrédulité: «On peut assurer hardiment, dit-il, que jusqu'à l'an 206 av. J.-C. leur histoire ne mérite aucune croyance. C'est un tissu perpétuel de fables et de contradictions; c'est un cahos monstrueux dont on ne sauroit rien extraire de suivi et de raisonnable». ¹⁾ Goguet.

Le savant jésuite allemand, Athanase KIRCHER, ²⁾ paraît être le premier à avoir soulevé la question de l'origine égyptienne des Chinois dans son grand ouvrage *Oedipus Aegyptiacus* ³⁾ en 1654; il a depuis reproduit sa théorie dans un autre de ses livres, la *China illustrata* ⁴⁾, parue en 1667 dont une édition française ⁵⁾ fut Kirch.

1) *De l'Origine des Loix*, III, Paris, 1758, p. 295.

2) Athanasius Kircher, né à Ghyssa, près Fulde, le 2 mai 1602; † à Rome le 27 novembre 1680.

3) Athanasii Kircheri, S. J. *Oedipi Aegyptiaci*. Tomus III. *Theatrum Hieroglyphicum*. Romae, 1654, in-fol.

Cap. II, pp. 10—21: quo modo Hieroglyphica à coeteris discearum Gentium literis distinguantur, & potissimum in quo Characteres Sinesium ab Hieroglyphicis differant.

Voir pp. 345 seq.: *Oboliscus Floridissimus, siveque interpretatio*, et pages 350 et 355, la reproduction de ce monument.

4) *China... illustrata...* Amstelodami, 1667, in-fol.

5) *La Chine d'Athanasius Kircher... illustrée* Amsterdam, 1670, in-fol.

donnée en 1670; dans celle-ci la *Sixième Partie* est consacrée à l'écriture des Chinois et comprend cinq chapitres dont le quatrième traite de la différence qui est entre les caractères chinois, & les hiéroglyphes des Égyptiens.

«Les premiers Chinois, écrit Kircher, étant descendus des Égyptiens ont suivi leurs façons de faire pour leurs écritures, non pas quand à la composition des lettres, mais quand aux figures tirées de diverses choses naturelles, lesquelles leur servoient pour manifester leur concept. C'est pourquoy ils avoient autant de signes pour l'expliquer qu'ils avoient de choses à enoncer¹⁾.

Plus loin, il nous dit:

«Les enfans de Cham, ayant conduit des colonies dans les extrémités de la Chine, ils y avoient introduit aussi les lettres & les caractères non pas à la vérité avec toutes les significations et les mystères dont estoient ornés les hiéroglyphes des Égyptiens, mais tout autant qu'il estoit nécessaire pour expliquer sa pensée, & donner à connaître ses conceptions & ses sentimens: quoique grossièrement²⁾.

«Les premiers Chinois ont fait leurs caractères de toutes les choses du monde, & ils se sont servis de tout, comme on le voit par leurs chroniques & par la forme & la figure de leurs lettres: car ils les formoient de même que les Égyptiens, représentant tantost des animaux maintenant des volatiles, après des reptiles, des poissons, & enfin après tout cela ils se servoient des herbes, des rameaux d'arbres, des corbes, des points, des cercles, & de plusieurs autres choses qui formoient neantmoins ces mêmes caractères d'une autre façon que ceux des Chinois, d'aprèsant, lesquels pour estre devenus plus doctes & plus habiles par l'expérience des choses, ont changé le tout, & ont mis cette confusion d'animaux, & de plantes dans une certaine ressemblance par les points qu'ils y ont mis, lesquels rendent cette ancienne methode plus facile & plus courte qu'elle n'estoit³⁾.

Ce que Kircher connaissait de la Chine, il le tenait du P. Michel BORM⁴⁾, Polonais, envoyé d'Extrême-Orient en mission en Europe par ses supérieurs; il fut également en rapport avec le P. Jean

1) *Œuvre illustrée*, p. 305.

2) *I. c.*, p. 311.

3) Kircher, *I. c.*, p. 303.

4) Michel BORM, né à Lwow, Pologne, en 1612; † au Kouangai, le 22 août 1659.

GRUEBER ¹⁾, autre Jésuite, qui visita le Tibet, et dont il a publié la relation de voyage dans sa *China illustrata*; sa science sinologique n'était que rudimentaire; il y ajouta ses autres connaissances vastes assurément, et la faculté de bâtir des théories qui suffisaient à l'esprit critique et de controverse de l'époque.

Kircher trouva un adversaire redoutable, devançant certainement son siècle dans certaines de ses vues, Nicolas FAÉART, ²⁾ qui mourut secrétaire perpétuel de l'Académie des Inscriptions et Belles-Lettres; il combattit vigoureusement Kircher dans un mémoire lu à l'Académie le 6 décembre 1718. ³⁾

Fréret.

Fréret observe que

«les Chinois n'ont point eu en vûe les images pour les choses que la peinture peut mettre sous les yeux, ni les symboles pour représenter par allégorie ou par allusion les choses qui ne le peuvent être par elles-mêmes. Le P. Kircher [*China illustrata*] est d'un autre avis; mais il paroit en cette occasion avoir un peu trop donné à son imagination. Je ne prétends cependant pas que l'on ait évité ces ressemblances entre les choses & les caractères, lorsqu'elles se sont présentées: mais il est sûr qu'on ne les a pas cherchées, & qu'elles sont presque toujours détruites par l'analyse du caractère où l'on avoit crû les appercevoir.

«Les premiers Inventeurs de l'écriture chinoise se sont attachés à des signes entièrement arbitraires; ou qui n'ont qu'un rapport d'institution avec les choses signifiées; en cela ils ont suivi le génie de la nation chinoise, qui même avant *Fo-hi*, c'est-à-dire, dans la plus profonde antiquité, se servoit de cordelettes nouées en guise d'écriture. Le nombre des noeuds de chaque corde formoit un caractère, & l'assemblage de cordes tenoit lieu d'une espèce de livre qui servoit à rappeler, ou à fixer dans l'esprit des hommes le souvenir des choses, qui sans cela s'en seroient effacées.

Le savant évêque d'Avranches, HURT, nous donne l'Inde et la Chine comme des colonies égyptiennes:

Hurt.

1) Jean Grueber, né à Lina, 26 oct. 1623; † à Florence en 1665.

2) Né à Paris, le 12 février 1688; † à Paris, 4 mars 1749; il avait été nommé secrétaire perpétuel le 4 janvier 1743.

3) *Réflexions sur les Principes généraux de l'Art d'écrire, et en particulier sur les fondemens de l'écriture chinoise*. (Mém. de l'Ac. R. des Ins., VI, 1729, pp. 609—635.) — Voir p. 623.

« Si le commerce des Egyptiens a été aussi ancien & aussi grand dans l'orient, que nous avons sujet de le croire, il faut conclure que celui des Indiens qui étoient leurs principaux correspondans, ne l'étoit pas moins. . . . Or cette correspondance des Indiens & des Egyptiens est si clairement établie par les anciennes histoires, qu'on ne peut pas s'empêcher de croire en les lisant, que si toute la nation des Indiens & des Chinois n'est pas descendue des Egyptiens, elle l'est du moins en la plus grande partie. Car quelle autre chose peut signifier cette expédition si célèbre d'Oairis dans les Indes, où il régna pendant cinquante-deux ans, cultiva & polit cette nation, y bâtit des villes, & y répandit tant de colonies d'Egyptiens, que l'Egypte se crut suffisamment autorisée dans la suite à former une prétention sur les Indes comme sur son propre? ¹⁾ »

Huet expose toute sa théorie dans le chapitre suivant: ²⁾

« Entre tous ces essains d'Egyptiens qui inondèrent les Indes, les Chinois méritent bien d'être considérés en leur particulier. On trouve chez eux des marques bien sensibles de leur origine, une grande conformité de coutumes avec celles des Egyptiens, leurs doubles lettres, hiéroglyphiques, & profanes, quelque affinité même de leurs langues, la doctrine de la métempsycose, le culte de la vache, & ce qui me paroît fort remarquable, cette aversion constante que font paroître les Chinois à recevoir les negocians étrangers dans leurs pays, & qui les a possédés dans tous les tems, pareille à celle que Strabon attribue aux anciens Egyptiens. Je ne puis donc assez m'étonner, que contre des preuves si claires, un Écrivain de ces derniers tems, plein d'esprit d'ailleurs & de suffisance, mais sujet à beaucoup de préventions, ait pu soutenir au contraire que les Egyptiens & les Phéniciens ont reçu leurs sciences des Indiens. Il seroit aisé de détruire son système, si la matière que je traite ne m'entraînoit ailleurs. Quoi que les Chinois soient sortis d'Egypte, en tout ou en partie, avec le reste des Indiens, ils ont pourtant fait depuis long-tems un état séparé, qui s'est autrefois acquis une si grande puissance, qu'il s'est rendu maître de toutes les Indes. On sçait que le Japon, la Corée, la Cochinchine & le Tonquin, ont été des provinces de la Chine. Et si l'on veut croire les Chinois même, & que leur présomption ne rende pas leur témoignage un peu suspect, ils ont autrefois étendu leur empire jusqu'au cap de Bonne-Espérance. La plupart des Indiens neantmoins leur déferent l'honneur de cette supériorité, & se souvenoient de leur ancien commerce. On connoît par les annales d'Ormus, qu'on a vu dans le golfe Persique jusqu'à quatre cens vaisseaux Chinois, se décharger & se charger d'une infinité de marchandises précieuses. L'usage de

1) *Histoire du Commerce des Anciens*, 1716, in-12. Chap. IX. Commerce des anciens Indiens, pp. 37—8.

2) Chap. X. Commerce par mer des anciens Chinois, pages 49—2.

la boussole est très ancien parmi eux; non pas que je croye que Marc-Paul l'ait apporté de la Chine dans l'Europe, comme bien des gens en sont persuadés; car il paroît par les vers de Guyot de Provins poëte François, qui vivoit vers l'an 1200, rapporté par Fauchet, que les pilotes François se servoient de la boussole, plus de quarante ans avant Marc Paul. L'histoire rend témoignage à la probité & à l'équité des anciens Sires majeurs des Chinois, qui trafiquoient sans voir, & sans se faire voir aux marchands.

A la suite de Huet, MAIRAN, de l'Académie des Sciences,¹⁾ Mairan. voulut également trouver en Egypte, l'origine des Chinois. C'est, dit-il, «par la conformité de mœurs & de Coutumes qui en est la grande, &, à mon avis, l'unique preuve, qu'il convient de décider la question»²⁾. Il ne voyoit d'ailleurs aucune impossibilité à l'arrivée de Sésostris en Chine avec cent mille Egyptiens. Son correspondant à Peking, le savant Jésuite, PARREPIN,³⁾ opposa aux théories de Mairan d'excellents arguments, qui ne paraissent pas toutefois avoir produit l'effet nécessaire,⁴⁾ car nous voyons en 1759, De Guignes, DeGuignes. de l'Académie des Inscriptions, renouveler la question dans un Mémoire destiné à prouver que les Chinois sont une colonie égyptienne; De Guignes qui avait d'abord partagé les idées de Parrenin, fut frappé de la grâce par un mémoire de l'abbé BARTHÉLEMY sur les lettres phéniciennes:

«J'avois devant moi, dit-il, les Lettres Phéniciennes dont il venoit de nous donner un Alphabet exact. Pour me délasser je m'avisai de jeter les yeux sur un Dictionnaire Chinois, qui contient la forme des caractères antiques: je fus frappé tout-à-coup d'apercevoir une figure qui ressembloit à une Lettre Phénicienne; je m'attachai uniquement à ce rapport, je le suivis, & je fus étonné de la suite de preuves qui se présenteront à moi. Telle est l'origine de ce Mémoire, que deux circonstances réunies par le hasard ont fait naître.

«Je fus alors convaincu que les caractères, les loix & la forme du Gouver-

1) Jean Jacques d'ORSTRE, surnom de MAIRAN, né à Bédiers en 1678; † 9 janvier 1771.

2) *Lettres de M. de Mairan au R. P. Parrenin*... A Paris, chez Dussaut & Sallust, 1759, pet. in-8; voir p. 86.

3) Dommeque PARREPIN, né au Russet, diocèse de Beauvais, le 1^{er} sept. 1665; † à Peking, le 27 sept. 1741.

4) Lettre du 18 sept. 1755, *Let. édifiantes*, 24^e recueil.

nement, le Souverain, les Ministres mêmes qui gouvernoient sous lui, & l'Empire entier étoit Egyptien: & que toute l'ancienne Histoire de la Chine n'étoit autre chose que l'Histoire d'Egypte qu'on a mise à la tête de celle de la Chine, comme si des François établis en Amérique y foudoient actuellement un Royaume dont le premier Souverain seroit regardé comme le successeur du Monarque qui régnoit en France: par-là toute l'histoire de France antérieure, deviendrait l'histoire ancienne de cette colonie. Je trouvai encore les caractères qui ont donné naissance à ceux des Hébreux, des Arabes, des Syriens, des Ethiopiens & des Phéniciens, c'est-à-dire, les premiers caractères du monde, & une grande partie de la langue Phénicienne.¹⁾

Leroux.
Deshautesayes.

En fait comme le fait remarquer LEROUX DESHAUTESAYES, le but de De Guignes étoit de prouver: «1°. Que les caractères chinois ne sont que des espèces de monogrammes formés de trois lettres Phéniciennes, & que la lecture qui en résulte produit des sons Phéniciens ou Egyptiens. 2°. Que les deux premières Dynasties Chinoises sont composées de Princes qui ont régné, non à la Chine, mais en Egypte... M. D. établit la conformité entre ces Princes, non par un parallèle de leur histoire, ou par une ressemblance entre des faits qu'il rapprocheroit, mais par la lecture seule des noms Chinois de ces Princes qu'il croit composés de lettres Phéniciennes. 3°. Enfin M. D. prétend encore prouver qu'une Colonie Egyptienne alla s'établir dans la Chine, & il fixe l'époque de son entrée dans cet Empire à l'an 1122. Cette époque est celle où Youvang jeta les fondemens de la Dynastie Impériale des Tchong, la troisième des Dynasties chinoises»²⁾. Les doutes de Deshautesayes ne touchèrent pas De Guignes qui répondit à son adversaire³⁾. Il n'est d'ailleurs pas utile d'entrer dans le détail d'une discussion qui n'offre plus qu'un intérêt de curiosité.

1) *Mémoire dans lequel on prouve que les Chinois sont une colonie égyptienne...* Par M. de GUIGNES... A Paris, chez Desaint & Saillant, 1759, pet. in-8, voir pages 36—38.

2) *Doutes sur la Dissertation de M. de Guignes...* Par M. LEROUX DESHAUTESAYES... A Paris, chez Laurent Prault (et) Duchesne, 1759, pet. in-8, voir pages 2—7.

3) *Réponse de M. de Guignes...* A Paris, chez Michel Lambert, 1759, pet. in-8.

Sur cette querelle sinico-égyptienne viennent se greffer la théorie Warburton de l'anglais WARBURTON¹⁾ sur les hiéroglyphes égyptiens et ses remarques sur la chronologie et sur la première écriture des Chinois qui ne restèrent pas sans réponse:²⁾

«Il est temps, écrit Warburton,³⁾ de parler d'une altération, que ce changement de sujet, & cette manière de l'exprimer, introduisirent dans les traits des figures Hiéroglyphiques. L'animal, ou la chose, qui servoit à représenter, avoient été jusques là dessinés au naturel. Mais, lorsque l'étude de la Philosophie, qui avoit occasionné l'écriture symbolique, ont porté les Scavans d'Egypte à écrire beaucoup, & sur divers sujets, ce dessein exact multipliant trop les volumes, leur parut ennuyeux. Ils se servirent donc par degrés d'un autre caractère, que nous pouvons appeler, l'écriture courante des Hiéroglyphes. Il ressembloit aux caractères Chinois, &, après avoir d'abord été formé du seul contour de chaque figure, il devint à la longue une sorte de marque. Je ne dois pas omettre ici de parler d'un effet naturel que ce caractère de l'écriture courante produisit avec le tems. Je veux dire, que son usage diminua beaucoup de l'attention que l'on donnoit au symbole, et la fin à la chose signifiée. Par ce moyen l'étude de l'écriture symbolique se trouva fort abrégée; n'y ayant alors presque autre chose à faire qu'à se rappeler le pouvoir de la marque symbolique, au lieu qu'auparavant il falloit être instruit des propriétés de la chose, ou de l'animal, qui étoit employé comme symbole. En un mot, cela réduisit cette sorte d'écriture à l'état où est présentement celle des Chinois».

Au milieu de la controverse suscitée par la théorie de De Guignes, Needham, un membre de la Société royale de Londres, NEEDHAM, prit sur un buste d'Isis, du Musée de Turin, l'empreinte de caractères soi-disant égyptiens qu'il prétendait ressembler aux caractères chinois; il les présenta à un Chinois du Vatican, *sed nihil prorsus aspectu primo intellexit*, dit-il. Le Chinois n'y entendait rien, parce qu'il ne connoissoit que les caractères modernes.⁴⁾ Cependant l'employé chinois de la Bibliothèque vaticane, flairant probablement quelque aubaine,

1) *Essai sur les Hiéroglyphes des Egyptiens*... Trad. de l'Anglois de M. WARBURTON... A Paris, Guerin, 1744, 2 vol. in-12.

2) *Dissertation sur l'écriture Hiéroglyphique*... A Amsterdam, Et se trouve à Paris, chez J. Barbou, 1762, in-12.

3) *Id.* t. I, pp. 138—140.

4) *Extr. du Journal des Savans*, déc. 1761, Vol. I, p. 4.

ne se tient pas pour battu; il s'arme d'un dictionnaire de K'ang hi et il découvre immédiatement une ressemblance entre une douzaine des caractères de l'ais et des caractères chinois! De nos jours, Li Fong-pao, ministre de Chine à Berlin, n'a pas hésité dans les mêmes circonstances à lire du chinois.

On eut pu faire la même découverte avec n'importe quelle autre langue hiéroglyphique; là-dessus grande joie de Needham qui convoque tout ce qui pouvait constituer le ban et l'arrière-ban scientifique à Rome et il fait signer à ces savants et à ces grands seigneurs, le 25 mars 1762, le procès-verbal de sa prétendue découverte ¹⁾. Pour confirmer ses vues, Needham en appela aux Jésuites de Peking, et la réponse ²⁾ qui lui fut faite par le P. Cirsor ne fut rien moins que favorable à ses idées. ³⁾

C. de Pauw. La théorie égyptienne trouva un adversaire dans Cornelius de PAUW:

«Quant à la communication qu'on suppose avoir existé entre la Chine & l'Égypte, on se convaincra par la lecture de cet ouvrage que jamais supposition ne fut moins fondée. Il est étonnant d'ailleurs qu'on ne se soit point aperçu, qu'en l'an 1122 avant notre ère les Égyptiens se servoient déjà d'un caractère alphabétique, composé de vingt-cinq lettres suivant Plutarque, & seulement de vingt-deux suivant les découvertes modernes. Or c'est une absurdité bien grande de vouloir que les Égyptiens n'aient point porté à la Chine leur alphabet qui étoit fort simple, & de soutenir qu'ils y ont porté leurs hiéroglyphes employés uniquement par les prêtres, & qui ne ressembloient point aux caractères de la Chine, comme l'ont soutenu des écrivains dont l'esprit étoit fécond en rêveries. On ne découvre d'ailleurs aucun rapport ni entre la religion de ces deux pays, ni entre les langues. ⁴⁾

1) *De inscriptionibus quædam Ægyptiaca Taurini inventa et characteribus Ægyptiis etiam et Suis communibus exarata idolo cuidam antiquo in regia universitate servato ad utraque Academiæ Londinensium et Parisiensium rerum antiquarum investigationi et studio prospectas data epistola*. Rôma, 1761, pet. in-8.

2) *Lettre de Pékin, sur la génie de la Langue chinoise, et la nature de leur écriture symbolique, comparée avec celle des anciens Égyptiens...* A Bruxelles, 1773; in-4.

3) HENRI CORDIER, *Fragment d'une hist. des Études chinoises*, pp. 62—3.

4) *Recherches philosophiques sur les Égyptiens et les Chinois...* Nlle éd., Genève, 1774, I, pp. xvn—xviii.

Voltaire a consacré l'article IV de son *Fragment sur l'Histoire Voltaire. Générale* (1773) à étudier *Si les Egyptiens ont peuplé la Chine, et si les Chinois ont mangé des hommes*. Avec son grand bon sens, il écrivait :

« Il nous a paru, par exemple, que les Chinois ne descendent pas plus d'une colonie d'Egypte que d'une colonie de Basse-Bretagne. Ceux qui ont prétendu que les Egyptiens avaient peuplé la Chine ont exercé leur esprit et celui des autres. Nous avons applaudi à leur érudition et à leurs efforts; mais ni la figure des Chinois, ni leurs mœurs, ni leur langage, ni leur écriture, ni leurs usages, n'ont rien de l'antique Egypte. Ils ne connurent jamais la circoncision: aucune des divinités égyptiennes ne parvint jusqu'à eux; ils ignorèrent toujours les mystères d'Isis. ¹⁾

De nos jours, dans un plaisant paradoxe, un savant guerrier a voulu identifier les Egyptiens préhistoriques avec les Annamites. ²⁾

La découverte de bouteilles de porcelaine dans des tombes égyptiennes de Thèbes allait donner, pour peu de temps d'ailleurs, un regain de popularité à la théorie des antiques relations de la Chine avec la terre des Pharaons.

Bouteilles de Porcelaine.

WILKINSON écrivait :

Wilkinson.

« Parmi les nombreuses bouteilles trouvées dans les tombes de Thèbes, nulles n'ont excité plus de curiosité et de surprise que celles de fabrication chinoise, portant des inscriptions dans cette langue. La découverte accidentelle d'une seule bouteille de ce genre passerait naturellement inaperçue, et si nous ressentions quelque surprise qu'elle eût été déposée dans un sépulcre égyptien, on pouvait raisonnablement conjecturer qu'un visiteur d'époque plus récente pourrait l'avoir laissé tomber, en recherchant d'anciens trésors d'une plus grande valeur. Mais cette explication cesse d'être admissible quand nous apprenons que des bouteilles ont été découvertes dans diverses tombes thébaines. . . » ³⁾

1) *Oeuvres complètes*, Mélanges VIII, Paris, Garnier, 1879, pp. 234—5.

2) *Les Egyptiens préhistoriques identifiés avec les Annamites d'après les inscriptions hiéroglyphiques* par le général H. Frey de l'armée coloniale. Paris, Hachette, 1905, in-8, pp. 106.

3) *The Manners and Customs of the Ancient Egyptians*. By Sir J. Gardner Wilkinson. . . A new edition, revised and corrected by Samuel Birch. . . London, 1878, 3 vol. in-8, II, pp. 152—3; avec représentations de ces bouteilles.

S. Birch. Samuel BIRCH dans son édition de Wilkinson, avant de citer les traductions de MEDHURST et de DAVIS remarque :

« Il est maintenant connu que ces bouteilles sont d'une période relativement récente. M. PAISSE a découvert, en questionnant les Arabes du Caire faisant le commerce des antiquités, qu'ils avouèrent que les bouteilles n'étaient jamais trouvées dans les tombeaux ou les ruines, et que le plus grand nombre des bouteilles provenaient de Qous, Keft, et Cosseir, entrepôts du commerce avec l'Inde sur la Mer Rouge. »¹⁾

W. H. Medhurst.

W. H. MEDHURST a examiné les facsimiles de douze inscriptions sur des bouteilles de porcelaine trouvées en Egypte et envoyées par Stanislas JULIEN. Il a traduit ces inscriptions avec son lettré et la conclusion de cet examen est que les bouteilles fabriquées d'une matière qui ne pouvait être antérieure à la dynastie des Han portaient des citations de vers qui ne pouvaient pas, si l'histoire de la poésie chinoise est vraie, avoir été écrits avant la dynastie des T'ang, ce qui rendait impossible leur découverte dans des tombes contemporaines des plus anciens événements de la chronologie chinoise; et que, au contraire, ces bouteilles avaient été fabriqués sous la dynastie des Ming²⁾. Harry PARKES de son côté était convaincu que ces bouteilles ne possédaient pas l'antiquité qui leur était attribuée.³⁾

H. S. Parkes.

FEUILLET DE CONCHES a résumé ainsi la question :

Pauthier et S. Julien.

« On a fait beaucoup de bruit, dans l'année 1834, en Italie et en Angleterre, de la découverte de petits flacons de porcelaine chinoise, trouvés dans des hypogées égyptiennes, d'une époque pharaonique antérieure de 1800 ans à notre ère, et qui, disait-on, n'avaient jamais été ouvertes. L'égyptologue pieux ROSellini, MM. WILKINSON et DAVIS crièrent au miracle. Que de discussions eussent été soulevées si la découverte n'eût pas rencontré, dès l'abord, un puissant contradicteur ! La Bible allait être mise en jeu, et la science historique se serait perdue en vaines conjectures sur le nébuleux et fabuleux communautè d'origine, ou de rapports commerciaux entre des peuples de races distinctes, et qui, de fait, ne se sont point connus à ces époques reculées. Or, on s'était joué malicieuse-

1) *L. c.*, II, p. 154.

2) *Trans. China Branch Royal Asiatic Society*, Part III, Hongkong, 1838, p. 40.

3) *Ibid.*, p. 36.

ment de la crédulité des trois savants personnages, comme le Grec SIMONIDES s'est heurté dans ces derniers temps contre la sagacité de M. HARE en France et d'Alexandre de HUMBOULT en Prusse. Le célèbre sinologue de notre Institut, M. Stanislas JULIEN, a restitué ¹⁾ la véritable date de ces fioles merveilleuses, en prouvant qu'elles portaient des inscriptions tirées de poètes du VII^e siècle après Jésus-Christ, ce qui ne voulait pas même dire qu'elles ne fussent point de fabrication très-récente, car les Chinois sont les plus habiles faussaires, les plus adroits fabricateurs d'antiquités. ²⁾

Pauthier s'était montré sage dans la question des bouteilles de porcelaine; il le fut moins dans le travail qu'il publia en 1842 chez Didot et dont le titre suffit à faire connaître l'objet: *SINICO ÆGYPTIACA. — Essai sur la formation similaire des écritures figuratives chinoises et égyptienne*. Il n'en donna que la première partie dans laquelle il indiquait les principes, communs suivant lui « aux deux écritures figuratives chinoise et égyptienne, en font des écritures d'une nature spéciale et similaire, qui ne peuvent être soumises qu'à des lois spéciales. Ce sont ces lois, dit-il, que nous avons esquissées précédemment. La suite de cet *Essai* sera consacrée à leur démonstration ». On a vainement attendu cette démonstration.

Dans son ouvrage *Crania Ægyptiaca*, ³⁾ S. G. MORTON déclare Morton. qu'il ne

trouve rien comme traits mongols dans aucune tête embaumée de sa collection, à moins qu'une ressemblance générale puisse être tracée dans un exemple unique de Thèbes. Cette observation vient à l'appui de l'opinion du Professeur Blumenbach, qui en comparant les Égyptiens avec les diverses races humaines,

1) *Les Peintres européens en Chine et les Peintres chinois* par M. P. FEUILLET DE CONCHIN. Paris, 1846, in-8, pp. 26—27.

2) L'exemplaire de l'école des Langues orientales porte la note manuscrite suivante de la main de Pauthier:

« J'avais restitué avant M. Julien, et dès 1845, dans une note publiée par M. Prisse dans la *Revue archéologique* (Mars 1846) la véritable date de ces vases. M. Feuillelet ne l'ignorait pas, mais il voulait donner un coup d'immensité à M. Julien ».

3) *Crania Ægyptiaca, or, Observations on Egyptian Ethnography, derived from Anatomy, History and the Monuments*. By Samuel George Morton, M.D. . . . From the *Trans. of the American Philosophical Society*, Vol. IX. — Philadelphia, 1844, in-4. — Voir *American Ethnographical Society*, III, p. 215.

affirme qu'ils «diffèrent d'aucun autant que de la race mongole, à laquelle appartiennent les Chinois». ¹⁾

Morton ajoute:

«Que les Chinois aient eu des relations commerciales avec les Egyptiens dans les temps primitifs n'est pas discutable; car des navires de porcelaine chinoise, avec des inscriptions dans cette langue ont été trouvées dans les catacombes de Thèbes ²⁾. Cependant dans chaque exemple où nous découvrons des Mongols sur les monuments, ils sont représentés comme des étrangers et des ennemis. La gravure sur bois ci-jointe, avec le nez petit et un peu déprimé, la tête rasée, la natte de la tête, la barbe rare, la moustache, et le teint blême, semble clairement indiquer un homme de cette race. Elle est copiée d'un dessin dans Rosellini, dans lequel Ramsès III est représenté combattant contre les *Sheto* ou Scythes, parmi lesquels les Mongols apparaissent contre des alliés ou des mercenaires». ³⁾

Morton conclut de ses recherches: 1° La Vallée du Nil, en Egypte et en Nubie, était à l'origine peuplée par une race caucasienne; 2° Ces peuples primitifs, appelés depuis Egyptiens, étaient les Mizraïmites de l'Ecriture, la postérité de Ham, et affiliés directement avec la famille libyenne des nations; 3° Dans leurs caractères physiques, les Egyptiens étaient intermédiaires entre les races Indo-européenne et sémitique... les nègres étaient nombreux en Egypte, mais leur position sociale dans les temps anciens était la même que maintenant, celle de serviteurs et d'esclaves... les fellahs d'aujourd'hui sont les descendants en ligne directe et les moins mélangés des anciens Egyptiens. ⁴⁾

Ramsès II. La dernière fantaisie sinico-égyptienne est celle de la conquête de la Chine par le grand Ramsès II sur l'autorité d'Hérodote et de Diodore de Sicile.

Diodore de Sicile nous raconte en effet que le grand Sesoosis,

1) *L. c.*, p. 62.

2) WILKINSON, *Ancient Egyptians*, III, p. 108.

3) *L. c.*, p. 63.

4) *L. c.*, p. 65-6.

le Sesostris d'Hérodote, le Ramsès II des Egyptiens, dans son désir de domination universelle, « se rendant en Asie, à la tête de son armée, soumit tout ce pays; il pénétra non seulement dans les pays qui furent plus tard conquis par Alexandre le Macédonien, mais encore il aborda des contrées et des nations que celui-ci n'atteignit pas. Car, il passa le Gange, et s'avança dans l'Inde jusqu'à l'Océan, et du côté de la Scythie jusqu'au Tanaïs, fleuve qui sépare l'Europe de l'Asie. On raconte même, qu'un certain nombre d'Egyptiens, laissés aux environs du Palus Méotide, donnèrent naissance au peuple des Colchidiens » ¹⁾.

Hérodote avait été plus sobre: Sesostris « fut, selon ces Prêtres, le premier qui, étant parti du golfe Arabique avec des vaisseaux longs, subjuga les peuples qui habitaient les bords de la Mer Erythrée: il fit voile encore plus loin, jusqu'à une mer qui n'était plus navigable à cause des bas fonds. Delà, selon les mêmes Prêtres, étant revenu en Egypte, il leva une nombreuse armée, et avançant par la terre ferme, il subjuga tous les peuples qui se trouvèrent sur sa route... En parcourant ainsi le continent, il passa d'Asie en Europe, et subjuga les Scythes et les Thraces: mais je crois que l'armée Egyptienne n'alla pas plus avant; car on voit, chez ces nations les colonnes qu'il y fit ériger, et l'on n'en trouve point au delà. Il retourna ensuite sur ses pas: quand il fut arrivé sur les bords du Phase, je ne puis assurer s'il y laissa une partie de son armée pour cultiver le pays, ou bien si quelques uns de ses soldats, ennuyés de la longueur de ces voyages, ne s'établirent point sur les bords de ce fleuve. Quoiqu'il en soit, il paraît que les Colchidiens sont Egyptiens d'Origine. ... » ²⁾

Diodore reproduit Hérodote en y ajoutant la passage du Gange

1) Trad. F. Boesley, I, p. 64.

2) Trad. Larcher, II, 1802, Liv. II, pp. 79-80.

et l'avance dans l'Inde jusqu'à l'Océan et c'est sur son témoignage qu'un écrivain que nous ne nommerons pas nous déclare que Sesostris conquît la Chine aux environs de 15 ou 1600 ans avant J.-C., quatre ans avant l'exode des Hébreux! En réalité la légende de Sesostris conquérant dans la forme que lui donna Hérodote est postérieure à la conquête perse. «Aussi bien, nous dit un maître, ¹⁾ Hérodote n'a-t-il fait ici encore que transcrire sans s'en douter un roman populaire, où les données d'apparence historique ne servaient qu'à introduire un certain nombre d'épisodes de pure imagination».

Aujourd'hui, la plupart des savants cherchent en Afrique et non en Asie l'origine de la civilisation égyptienne. Dans son *Histoire ancienne des Peuples de l'Orient classique*, I, pp. 45—6, M. MASPERO remarque: «A examiner les choses d'un peu près, il faut bien reconnaître que l'hypothèse d'une origine asiatique, si séduisante qu'elle paraisse, est assez malaisée à défendre. Le gros de la population égyptienne présente les caractères des races blanches qu'on trouve installées de toute antiquité dans les parties du continent libyen qui bordent la Méditerranée: il est originaire de l'Afrique même et se transporta en Egypte par l'ouest ou par le sud-ouest. Peut-être rencontra-t-il dans la vallée quelque peuplade noire qu'il détruisit ou qu'il refoula; peut-être y fut-il accru après coup d'éléments asiatiques introduits par l'isthme et par les marais du delta». M. Edouard NAVILLE écrit: «En résumé, la population primitive de l'Egypte est africaine, elle se compose de deux éléments de même race, l'un, les Anou, les primitifs néolithiques qui ont été les premiers à occuper le pays dans toute son étendue, l'autre africain également, venant de quelque part sur le Haut Nil, peuplade pratiquant l'agriculture et connaissant la métallurgie. Ces nouveaux venus ont été d'abord des conquérants, ils ont «frappé les Anou», mais ils se sont mêlés gra-

¹⁾ Maspero, dans le *Journ. des Savants*, 1901, p. 202, 203.

duellement à la population primitive, et de ce mélange est née la civilisation égyptienne, qui est autochthone, et qui ne présente pas d'éléments étrangers¹⁾. La linguistique avec M. Reinisch confirme également l'origine africaine des Egyptiens.

Il me paraît toutefois impossible, que si l'on admet l'origine africaine de l'Égypte, on nie absolument une influence asiatique. Dans la séance de l'Académie des Inscriptions et Belles-Lettres du 22 mai 1914, M. George BÉNÉDITE, conservateur au Musée du Louvre, a communiqué un couteau en silex égyptien muni d'un manche d'ivoire décoré. Sur l'un des côtés, il y a un personnage héroïque maîtrisant deux lions dont le caractère asiatique est confirmé par les figures de la face opposée, où réapparaissent certains éléments qui évoquent le souvenir de la Stèle des Vantours. Il faut placer ce monument un peu avant l'époque thinite.

Peu de temps après que Kircher eut exposé sa théorie égyptienne John Webb, de l'origine des Chinois, un certain John Wess, de Butleigh, Comté de Somerset, fit mieux encore; il publia un essai historique pour démontrer qu'il était probable que le chinois était la langue primitive parlée par les hommes avant la confusion causée par la construction de la tour de Babel²⁾. Un anglais homonyme, Daniel Webb, Daniel Webb. inspiré par l'étude de la Grammaire chinoise de Fourmont parue en 1742, eut l'idée géniale que la langue grecque était dérivée du chinois³⁾.

En 1870, le Rév. Joseph ELLIS publiait un volume entier⁴⁾ J. Ellis pour montrer que les langues de l'Europe et de l'Asie peuvent être

1) *La population primitive de l'Égypte*, pp. 19—20. (*Rec. de Travaux Philol. et Arch. Égypt. et assyriennes*, XXXIII, 1911).

2) London, 1669, in-8.

3) London, 1787, in-8.

4) *China's Place in Philology*, London, 1871, in-8.

rattachées à une origine unique dans la région de l'Arménie et de la Mésopotamie. Ce sinologue distingué a montré plus tard la fertilité de son imagination en voulant rattacher les habitants du Dakota aux races asiatiques par une filiation nord-américaine, mongole, touranienne.¹⁾

J. Chalmers. G. SCHLEGEL a critiqué à la fois le Rév. J. CHALMERS, auteur de
G. Schlegel. *The Origin of the Chinese*, Hongkong, 1866, et le Rév. J. EDKINS. Du premier il nous dit: «Cet essai est aussi infructueux que les autres; car M. Chalmers, ne possédant point, comme il l'avoue lui-même, la méthode scientifique de la philologie comparée, a rassemblé seulement un tas de mots de toutes les langues du monde, qu'il a essayé de comparer à des mots chinois, selon leur prononciation actuelle. Ce petit livre est, ce que les Anglais nommeraient: a total failure». Du second il écrit: «Quoique plus savant que l'ébauche informe du Rév. Chalmers, dont, cependant, M. Edkins semble approuver les rêves étymologiques, il abonde pourtant en erreurs, et cela par la simple raison que M. Edkins semble ignorer les travaux étymologiques faits depuis 60 ans»²⁾. Schlegel, si sévère pour les autres, quoiqu'il ait suivi «la méthode rigoureuse de l'école philologique allemande»³⁾ ne paraît pas avoir été plus heureux dans ses recherches sur les racines sanscrites et indo-européennes⁴⁾.

Terrien de
Lacouperie.

Si quelques savants avaient constaté une similitude entre des caractères cunéiformes et des signes chinois comme d'autres entre les hiéroglyphes égyptiens et ces mêmes signes, TERRIEN DE LACOUPERIE est celui qui a renouvelé et cherché à donner une base solide à la

1) *Chin. Review*, XXII, pp. 720—8.

2) *Sino-Argens*, p. 31.

3) *L. c.*, p. XIII.

4) *Sino-Argens ou Recherches sur les Racines primitives dans les langues Chinoises et Argemans* Batavia, 1872, iv-8.

doctrine dont il a été l'apôtre de l'origine babylonienne de la civilisation chinoise. Esprit ingénieux et paradoxal, doué de plus d'imagination que de science, possédant des connaissances plus étendues que profondes, ignorant l'assyrien et ne sachant du chinois que ce qu'il avait puisé lui-même dans des livres en Europe, Terrien, ne tenant aucun compte de la chronologie, s'appuyant souvent sur des textes d'origine relativement récente, leur décernant un brevet d'une authenticité parfois douteuse, apportant fréquemment à l'appui de ses thèses des faits appartenant plutôt au domaine du folk-lore qu'à celui de l'histoire, adaptant les événements à une théorie préconçue, Terrien a ainsi réussi à édifier un système dont la façade peut paraître imposante mais qui s'écroule dès qu'on y touche. Rendons lui justice: il a eu cependant le grand mérite de remuer beaucoup d'idées, les unes fausses, ce sont les plus nombreuses, les autres justes, attirant ainsi l'attention sur des problèmes dont l'étude avait été trop négligée par les savants.

Terrien de Lacouperie indique quelques unes des plus remarquables traditions que selon lui les tribus Bak auraient apprises avant leur migration, par exemple le souvenir légendaire de:

Un grand cataclysme qui semble se rapporter au déluge; de Sargon et des détails de sa vie, sous le nom modifié de Chen Nong; de Dangi enseignant l'écriture aux tribus Bak; de Nakhonte, comme Nai Honang Ti, avec des circonstances qui se rapportent à Koudour Nakhounte et sa conquête de la Babylonie en 2283 av. J.-C.; de l'apparition successive d'êtres moitié poissons, moitié hommes au début de la civilisation et en rapport avec l'introduction de l'écriture; de l'arbre symbolique de vie et ses caractéristiques de calendrier, etc. ¹⁾

1) *Western Origin of Civilization*, p. 24.

Somme toute, ceci revient à dire que la Chine a reçu sa civilisation de tribus Bak, c'est-à-dire les Pe Sing des Livres Classiques chinois. Ces Bak Singe auraient eu très probablement les yeux bleus, la face colorée et des cheveux qui n'auraient pas été noirs, ce qui les distinguait du peuple chinois à cheveux noirs (*li min*, des Livres Classiques)¹⁾. Plus tard on verra au III^e siècle av. J.-C., Ts'IN CHE HOUANG TI donner à son peuple le nom de *Têtes Noires*; il faut donc admettre que les Pe Sing n'étaient pas les «*Cant* noms de famille» ainsi que le croyaient les sinologues, c'est-à-dire comme le dit Legge, la désignation des grandes familles de l'Etat sous les Tcheou,²⁾ mais bien des tribus portant le nom spécial de Bak, Pe cessant dans le système de Terrien d'être le chiffre 100, mais une simple phonétique qui se prononçait jadis Bak, ce qui n'est d'ailleurs pas prouvé. Ainsi donc toute la théorie de la civilisation de la Chine par des tribus soi-disant Bak repose sur un postulatum qui est en contradiction formelle avec tous les textes chinois ainsi que l'a démontré Harlez.³⁾

Ed. Biot. «D'après les données authentiques consignées dans les livres sacrés, et dans les quatre livres classiques qui forment la base de l'ancienne histoire chinoise, écrit Biot, les premiers habitants de la Chine étaient des peuples sauvages et chasseurs, au milieu desquels s'avança, entre le XXX^e et le XXVII^e siècle avant notre ère, une colonie d'étrangers, venant du nord-ouest. Cette colonie est généralement désignée dans les textes, sous le nom de *peuple aux cheveux noirs*, sans doute, par opposition à la couleur différente ou mêlée, des cheveux de la race indigène, dont quelques débris occu-

1) *Bak. and Orient. Record*, V, p. 245.

2) *Shao King*, Yao, 2, p. 17.

3) *T'oung Pao*, VI, 1895, p. 369.

peut encore les montagnes centrales de la Chine. Elle est appelée aussi les *cent familles*; et ses premières opérations présentent beaucoup d'analogie avec celles des planteurs, qui vont défricher les forêts de l'Amérique septentrionale¹⁾ La théorie de Biot est donc la contrepartie de celle de Terrien, puisque celui-ci voit au contraire le peuple chinois dans la race à cheveux noirs et l'immigrant dans le Bak aux yeux bleus. Mais rien dans les ouvrages chinois anciens ne permet de supposer qu'il y ait eu une immigration étrangère quelconque à l'époque dont parlent Biot et Terrien et qui ne peut être prise que pour une simple hypothèse, possible, mais que rien ne prouve jusqu'à présent.

En faisant dériver certains caractères chinois des caractères babyloniens, Terrien de Lacouperie a suscité la vocation de quelques disciples dont le plus connu est le Rév. C. J. BALL, qui, alors chapelain de Lincoln's Inn, poursuivaient dans les *Proceedings of the Society of Biblical Archaeology* des études comparées d'accadien et de chinois, à l'époque même où Terrien développait ses théories sur l'origine chaldéenne de la civilisation du Céleste Empire. Celui-ci a disparu, mais le Rév. C. J. Ball, aujourd'hui professeur d'Assyriologie à l'Université d'Oxford, a présenté tout récemment le résultat d'un grand nombre d'années de travail dans son volume intitulé *Chinese and Sumerian* (1913). Il nous explique d'abord dans son introduction la nature de l'écriture sumérienne illustrée par l'analyse de certains caractères; puis il donne une liste préliminaire de mots semblables; ensuite la classification chinoise des caractères écrits et les prototypes sumériens; un essai de vocabulaire comparé de sumérien et de chinois; enfin une liste de signes dans laquelle les formes anciennes (*kou wen*) des caractères chinois sont comparées avec

1) Biot, *l. cit.* au *Tchou K.*, pp. vi—vii.

leurs prototypes sumériens. Dans cette dernière liste il est hors de doute qu'il y a une grande similitude, parfois une similitude absolue entre les anciens caractères chinois et l'écriture sumérienne, mais il ne s'ensuit pas nécessairement que les uns dérivent de l'autre; ce sont résultats d'efforts parallèles. Le R^{ev.} C. J. Ball nous dit dans son introduction: « Nous n'avons aucune raison de supposer que le système primitif sumérien d'écriture a été l'invention d'un seul esprit ou d'une seule génération »; il n'y a pas plus de raison de supposer que le système chinois a été l'invention du même esprit qui a créé le système sumérien; ils sont l'un et l'autre le fruit de recherches qui ont pu être conduites indépendamment les unes des autres. Lorsque la Chine a reçu sa première forme d'écriture, la Babylonie avait depuis longtemps abandonné son écriture primitive pictographique ou hiéroglyphique; d'autre part, il me paraît matériellement impossible que des relations aient pu exister entre les deux pays dans l'antiquité du monde telle que la science moderne nous permet de la concevoir maintenant. Rien ne permet d'accorder à l'empire chinois une antiquité semblable à celle que révèlent les monuments de la Babylonie et de la Chaldée. Quand des fouilles systématiques auront été entreprises en Chine, l'archéologie préhistorique nous révélera peut-être des relations dont l'existence ne nous est pas encore prouvée, relations qui ne paraissent pas pouvoir coïncider avec la période assignée à l'écriture sumérienne.

Golbureau.

M. de GORINEAU cherche aux Indes l'origine de la civilisation chinoise dont il n'accepte pas la haute antiquité: « Rien infirme, tout appuie, au contraire, le témoignage des lois de Manou, et il en résulte que la Chine, à une époque postérieure aux premiers temps héroïques de l'Inde, a été civilisée par une nation immigrante de la race hindoue, kschattrya, ariane, blanche, et, par conséquent,

que Pan-kou, ce premier homme que, tout d'abord, on est surpris de voir défini en législateur par la légende chinoise, était, ou l'un des chefs, ou le chef, ou la personnification d'un peuple blanc venant opérer en Chine, dans le Ho Nan, les mêmes merveilles qu'un rameau également hindou avait, antérieurement, préparées dans la vallée supérieure du Nil». Et M. de Gobineau d'ajouter : « Ainsi, en Chine, comme en Egypte, à l'autre extrémité du monde asiatique, comme dans toutes les régions que nous avons déjà parcourues jusqu'ici, voilà un rameau blanc chargé par la Providence d'inventer une civilisation » ¹⁾.

Le phénoménal Pau kou dont nous parlons plus loin transformé en introducteur de la civilisation en Chine ne manque pas de saveur.

Il faut bien avouer que tous ces savants trop ingénieux n'ont suivi aucune méthode rationnelle; ils ont choisi leurs points de comparaison au hasard des dialectes et des siècles. Toutes leurs dissertations philologiques ne sont que de la haute fantaisie et ne sauraient jeter aucun jour sur l'origine de la langue chinoise et par suite sur celle du peuple chinois. Il faut d'abord connaître la langue chinoise ancienne, par suite sa phonétique, et dans ce but il est nécessaire d'étudier d'abord non seulement tous ses dialectes dont la majorité nous est encore inconnue, mais aussi les langues qui lui sont apparentées; cette étude est à peine commencée. « Un jour, dit B. KARLGRUN, ²⁾ où la linguistique aura réussi à reconstruire avec sûreté le système phonétique de l'ancien chinois, l'histoire et l'archéologie constateront avec reconnaissance que d'innombrables problèmes concernant l'Asie orientale et l'Asie cen-

1) A. de Gobineau, — *Essai sur l'Inégalité des Races Humaines* Paris, 1853, II, pp. 260—1.

2) *Phonologie chinoise*, p. 3

trale auront cessé d'être des problèmes». Dans cette immense famille de langues de l'Asie orientale que sous le nom de Famille Tibeto-Chinoise, Sir George A. GRIBBSON dans son *Linguistic Survey of India* divise en branches tibeto-birmanné et sino-siamoise, cette dernière elle-même dédoublée en groupe chinois et groupe taï, qui oserait dire que la plus ancienne est la langue chinoise; ces langues ou ces dialectes se sont développés parallèlement, parfois s'enchevêtrant, descendant sans doute d'une lointaine source commune que nous ignorons et qui a dû exister. La langue comme l'histoire de la Chine ont bénéficié de la durée et de la stabilité de l'Empire. Dans une autre région de l'Asie, la continuité de l'histoire du peuple d'Israel resté monothéiste lui a donné une importance qui appartiendrait peut-être plus légitimement à des empires plus puissants mais de durée plus éphémère, et cependant la connaissance des hiéroglyphes et des cunéiformes permet aujourd'hui de rendre à l'Égypte et à l'Assyrie la place prépondérante jadis occupée par les Juifs.

Dans l'histoire de la Chine, pas trace d'une immigration venue de l'étranger; nous avons rejeté la théorie de Terrien de Lacouperie de l'arrivée des Bak-Sings; le développement de sa civilisation s'est fait sous l'idée qu'elle était le centre de l'univers, l'Empire du Milieu (*Tchoung kouo*), bornée par les Quatre Mers (*Seu Hoï*), environnée de nations barbares ou moins civilisées qu'elle, sur lesquelles elle exerçait une suzeraineté tout au moins nominale, notion d'hégémonie qui ne paraît pas avoir complètement disparu de l'humanité.

Il ne s'ensuit pas de ce que les auteurs des théories que nous venons d'exposer n'ont pas réussi à nous en donner des preuves suffisantes pour nous convaincre de leur exactitude que nous devions rejeter comme impossibles toutes les hypothèses. Le problème de

l'origine des Chinois est toujours posé. Lorsque nous trouvons les Chinois campés sur les rives du Fleuve Jaune, d'où venaient-ils ? qu'étaient les tribus non chinoises qu'ils trouvèrent dans la région dans laquelle ils s'établirent et aux dépens desquelles ils colonisèrent ? Mais de ce que nous ne pouvons résoudre le problème actuellement, il n'en existe pas moins. Si l'histoire telle que nous la connaissons et l'archéologie ne suffisent pas à en donner la clef, cela prouve simplement notre ignorance du passé. Peut-être faut-il chercher le lien qui rattache la Chine au reste de l'humanité dans une antiquité si reculée que les générations actuelles ne sauraient y remonter. Nous entrons dans le domaine de la préhistoire, et, quant à la Chine, cette préhistoire est pour nous un terrain encore inexploré.

NOTES ON THE RELATIONS AND TRADE OF CHINA WITH THE EASTERN ARCHIPELAGO AND THE COAST OF THE INDIAN OCEAN DURING THE FOURTEENTH CENTURY

PART II

BY

W. W. ROCKHILL.¹⁾

V.

Ormuz. Coasts of Arabia and Africa.

73 (1). *Ying yai shêng lan*. 18. HU-tu-mo-ssü (忽魯謨斯). Ormuz.

This kingdom is on the sea-shore and abuts on mountains. It is in trade relations with the whole world, and, as a consequence, most of the people are wealthy and none miserably poor; everyone looks well-to-do.²⁾

Travelling by sea from Ku-li (Calicut) in a north-westerly direction for about twenty-five days one reaches there.

The people follow the Mohammedan religion, and pray five times daily, and are very sincere and devout as to fasting and ablations.

The habits and customs are pure and honest. Their skin is white, and they are stout and fine looking. Their clothing and caps are much embroidered.

1) See *T'oung Pao*, July, 1914, p. 419; March, 1915, p. 51; May, 1915, p. 236; July, 1915, p. 374; October, 1915, p. 435.

2) Ormuz is not mentioned, so far as I know, by any Chinese writer prior to Ma Huan. Ch'ang Ho visited Ormuz during his mission of 1412. Marco Polo (I, 107) refers to it as "a city of immense trade." It will be noted that Pei Hsin says it can be reached from Callant in ten days, while Ma Huan says twenty-five; this was probably the time he took to make the journey, not the average time.

In their marriage and funeral ceremonies they follow the Mohammedan religion.¹⁾

73 (2). *Hsing sh'a shêng lan*. 39. HU-LU-MO-SSE (忽魯謨斯).

One can go with a fair wind from Calicut to this country in ten days. It is on the sea-coast. All the people are given to trading (爲市). There is no vegetation. Cattle, camels, and horses, all feed on dried sea-fish. It is said that there is vegetation deep in the hills. They are honest in their customs. The walls are made of layers of stones.

The ruler lives in a secluded spot (深居), drilling troops, and raising horses. The soil is poor; wheat is more abundant than other kinds of grain.

The people are wealthy. Near the hills it is all coloured by salt. They dig it out and make it into dishes, plates, cups, and such like things, so that in eating they do not have to add any salt.²⁾ The houses are of layers of stones, they are three or four

1) *Hsi yang chao kung t'ien lu*, 3, 2 (Hu-lu-mo-seu), says: "In their marriage and funeral ceremonies they have the kâi's rite (加的禮), the official entrusted with the direction of all rites being called the kâi (kâi, judge). (Note in text: In any marriage ceremony the groom's family first gives a feast to the kâi, to their relatives and the go-betweens, after which the two families state their genealogical trees for three generations back; these are written down, and with this the ceremony is completed. If this is not done, the union) is looked upon as adulterous.

"In the funeral ceremony they make winding sheets of fine white cotton stuff, they wash the corpse three times with bottles of clear water, fill the mouth and nose with musk and camphor, put on the shroud and place it in a coffin. They make a grave with stones in which they put five or six inches of clean sand, then they bring the coffin, take out the corpse, put it in the tomb, cover it with stone slabs, and having rammed down the dirt they raise a mound".

2) *Hsi yang chao kung t'ien lu*, 3, 9^a (Hu-lu-mo-seu), says: "There is a mountain on the south side of which is much red salt, on the north side is much white plaster (白堊), on the east side is much red *du* (丹腹), and on the west side much yellow plaster (堊).

storeys high; the kitchen, sleeping rooms, and place for entertaining guests are all on top.

The men do up their hair in knots and wear a long shirt. They are good archers on horseback.

The women braid their hair hanging all around (their heads), putting yellow varnish on the crown. When they go out, they wrap their heads in cloth, and hide their faces with blue or red gauze. On the beading of their ears they hang strings of gold coins, and with a black substance (青石, antimony?) mixed with water they paint dots around their eyes (眼眶). They think tattooing of designs on the lips and face is beautiful. The rich ones hang around their necks necklaces of precious stones, pearls, and coral beads, and around their wrists and ankles they wear gold rings.

They use gold and silver coins in trade.

The products are pearls, precious stones, amber, ambergris, (and the stuff called) *sa-ha-la* (撒哈刺), and *so-fu* (梭腹), and rugs.¹⁾

Hing shih, 326, 9^o—10^o, says that a mission came to court from Ormuz in 1412 when Ch'eng Ho was sent on a return mission there. He was once more sent there in his mission of 1430. Referring to the mountain with sides of different colours mentioned by the *Hsi yang chao kang tien lu*, it says that one side produced red salt, another white clay (白土) used to plaster walls, another dark red earth (赤土), another yellow earth.

The *Malata*, II, 231, says, "The greater part (of the island of Ormuz) is composed of salty soil and of mountains of salt, of the kind called *durum*. They manufacture with this salt vases for purposes of ornamentation, and pillars on which to place lamps." *Linshohen*, I, 42 (Hakluyt Soc. ed.) says that the stones of the houses of Ormuz were of rock salt.

1) *Hsi yang chao kang tien lu*, 33, 10, says of the piece goods of Ormuz that they are of four kinds, the first is called "ten patterned embroidered cut velvet (十樣錦緞)", it has a pile a tenth of an inch long, and is twenty feet long and twelve feet broad. The second kind is called "*so-fu* of five colours" (五色梭幅), the third is called "*sa-ha-la* gauze veiling" (撒哈喇縐[縐]紗), the fourth is called "unembroidered kerchiefs with blue and red silk designs" (青紅絲嵌手巾).

Roussier, *Europeesche v. Nederlandsch-Indië*, IV, 393, compares the word *sa-ha-la* with Malay *sablat*.

The goods used (in trading) are gold, silver, blue and white china-ware, coloured satins and light silks, patchuk, pepper.

The ruler, in gratitude for the imperial bounty, came and presented in person various objects.¹⁾

74 (1). *Ying yai sheng lan*. 16. A-TAN (阿丹). Aden.

The kingdom (of A-tan) is on the sea-coast.²⁾ It is rich and prosperous, the people follow the doctrine of the Moslims, and their speech is Arabic (阿刺壁). Their tempers are overbearing and violent. They have seven to eight thousand well trained soldiers, horse and foot, whom the neighboring countries fear.

From Ku-li (Calicut) it can be reached by ship after a voyage of a month to the west.

In the 9th year of Yung-lo (A.D. 1411) the eunuch (Chêng Ho?), who had been sent by imperial command to give the king the commands of the Emperor, was received with great courtesy and respect. He requested the people of the country to come to trade (就互市, in China).³⁾

The king wears a gold cap, and his clothing is a yellow robe held at the waist by a girdle of gold adorned with precious stones. When comes the day of prayer, he changes to a white turban with a gold brocade cap and a white robe. When he goes out, he rides

1) *Hai yang shan tung tien lu*, loc. sup. cit., says that in 1405 the ruler of Ormuz sent a high official back to China on the junk of Chêng Ho; he took with him a giraffe and other presents and a petition to the Emperor on gold leaf. This cannot be made to agree with the statements of *Ming shih*, 326, 9^b—10, which places the first mission from Ormuz in 1412.

2) Cf. Geo. Phillips, *JRAS.*, 1896, 348—351.

3) *Ming shih*, 326, 8, says A-tan was twenty-two days sail from Ka-li (Quilap). The first mission which came from it to the Ming was in 1416. Chêng Ho visited it during his mission of 1417—1419, and again during his mission of 1430. The last mission from Aden to China was in 1436. No mention is made of a mission to Aden in 1411.

in a cart or on an elephant. His chiefs (將領) differ as to their caps and clothing.

Among the people the men wear a turban, and their clothes are made of either *sa-ha-la* (撒哈刺), embroidered linens, or fine cotton cloth (金繡紵絲細布). They wear boots or slippers.

The women wear long robes; on their heads a cap with beads and a fringe, earrings of gold set with jewels, and bracelets of gold and jewels. On their toes also they have rings. Their silk veils (? 幌), gold and silver trappings (器皿) are very fine (絕勝).

Their red gold coin (赤金錢) is called *pu-lu-li* (哺嚕黎): it weighs one mace, and there are figures on the face of it. Their copper coin is called *pu-lu-sa* (哺嚕厮): it is used in trading.¹⁾

The climate is constantly hot. They have no intercalation in their calendars. The ending of the moon makes the month a long or short one, (as) the day following the night on which the (new) moon has been seen begins the month.²⁾

They have able astronomers (推步者). They fix a certain day in spring on which the flowers will bloom, a certain day in autumn when the flowers will fade and fall, (the dates for) eclipses of the sun and moon, for wind, rain, the rise and fall of the tide; there are none of these things they do not correctly determine (無不驗者).

The dwellings of the people have stone walls, the upper part is covered with tiles or earth; they reach to forty or fifty feet in height.

1) Phillips, *loc. sup. cit.*, 349, says, on the authority of de Goeje, that *pu-la-li* is Arabic *Abu Lu-lu* "Pearl Father," possibly an account of a beaded circle on the coin, and that *pu-lu-sa* is *Abu Ksar* or *Kas*, "Father Arch" or "Bow," an account of the coin having the figure of an arch or bow on it. The pillar dollar, he adds, is commonly called *Abu Maifa* "Father Gun," the pillars being taken for guns. The Mohammedan writers speak of the "dark red gold dinars" of India.

2) The intercalation of months is forbidden by the Korān (see p. 619).

The bazars are well supplied with food, and (there is abundance of) fine raiment and books, just as in China. When eating rice they use with it very generally butter and honey, which give it a most agreeable taste.

The native products are rice, wheat, hemp, beans, and greens. Of fruits they have dates (萬年棗),¹⁾ pine nuts, *p'a-tan* (杷擔, Persian *badām*, almond), dried grapes, walnuts, pomegranates with scarlet flowers (花紅石榴), peaches, apricots, and the like.

Of animals there are elephants, camels, cattle, sheep, fowl, ducks, dogs, and cats, but neither pigs nor geese. Their sheep are hornless with hanging dewlaps (? 頷垂) and short hair.

They have red sandal-wood, attar of roses, *champak* (gardenia) flowers, white grapes, the *fu-lu* (福鹿, zebra),²⁾ and the "black and white camel-bird." The *fu-lu* is like a mule, it has a white head and a white face, its whole body is covered with fine dark tracings, looking as if painted. The "black and white camel-bird" (青花白駝鷄, ostrich) is like the *fu-lu*.

The *k'i-lin* (麒麟) has forelegs over nine feet long, its hind ones are about six feet. Beside its ears grow two short fleshy horns. It has a cow's tail and a deer's body. It eats millet, beans, and flour cakes (餅餌).³⁾

1) *Hai yang chao kang tsa lu*, 3, 9 (Hu-lu-mo-mu) distinguishes three kinds of dates or *tsu-sha-pu* (塚沙布), the first is like a plum (拇指) with a small stone, the fruit covered with candy and tasting like sugar, the second is soft and comes in a soft cake, it tastes like (Chinese) persimmons, the third kind (is dry) like our southern jujubes and has the same taste; this kind is fed to animals.

2) Cf. *Ch'u-fen chü* (P'i-p'a-lo, Barbera emat) in Hirth and Rockhill, *op. sup. cit.*, 138. The zebra is there described, but no name is given it. See also *infra*, 74 (2). The ostrich is called *ts'o-lo kuo* or "camel-crane." See also *infra*, 67 (1).

3) The giraffe is, of course, the animal here described. *Hai yang chao kang tsa lu*, 3, 13* (A-tan) describes as follows the *K'i-lin* of Adam: "Its frontlegs are nine feet long, its hind legs six feet. Its hoofs have three clefs (三跬), it has a flat mouth (匾口). Two short fleshy horns rise from the back of the top of its head. It has a cow's tail and a deer's body. This animal is called *k'i-lin*; it eats grain of any kind." The Arabic *marfa* appears first in Fu Hsin's work, *infra*, 74 (2).

The lion in shape is like a tiger with yellowish black hair; he has a big head (鉅育) and a wide mouth. The tail is rather black (稍黑), his hair is like a mane (如纓), his roar like thunder. All the animal world (百獸) fears the sight of it.¹⁾

Its tribute (to the Court of China) consisted in gold belts inlaid with precious stones, pearls, jewels, gold caps, *ya-ku* (precious stones) and every other kind of precious stone, and a petition (to the Throne) on a leaf of gold.²⁾

74 (2). *Hsing ch'a shêng lan*. 36. A-TAN (阿丹).

From Ku-li (Calicut) this country can be reached with a favourable wind in twenty-two days. It is on the sea-coast. It has no vegetation. The soil is fertile, and millet and wheat grow in great abundance. The walls of the town are of rocks, the houses of layers of *le-ku* stones (羅股石, coral stones?)³⁾ and three or four storeys high, the kitchen and sleeping rooms being on top.

Their customs are good, and all the people live in abundance. Men and women twist up their hair and wear a long shirt. When the women go out, they wear a blue veil to hide their faces, and cover their heads with a cotton cap so as not to expose to view

1) Chang Shêng's edition of the *T'ing-pai* has in the chapter on Ormuz and after the description of the lion the following: There is also found there an animal called *ts'ao shang fei* (草上飛) and by the natives *ya-kuo shih* (雅禍失). It is like a big cat in size, the whole body is like that of a tortoise-shell cat. It has black ears. It is gentle and kind, not fierce like the lion and the leopard. When animals see it, they prostrate themselves to the ground; it is the king of the animal kingdom." *Hsi yang chao kung t'ien lu*, 23, 10* (Hu-lu-mo-shu) reproduces the above; it gives the name of this animal as *An-yu-kuo-shih* (昔雅鍋失).

2) *Hsi yang chao kung t'ien lu*, 23, 12—13 (A-tan) says that in 1421 the eunuch Li (李) and others were sent to Aden with imperial letters patent. It also remarks that during the reign of Yung-lo Aden sent an envoy with a petition on gold leaf and presents.

3) See on this term *supra*, § (1), n. 7.

their forms. In their ears they wear a number of gold coins, and around their necks they hang a fringe.

The native products are sheep (羚羊); between their breasts to their tails hang down nine pieces (of flesh?), so they are called "nine-tailed sheep" (九尾羊).¹⁾ There are also thousand li camels, donkeys with black mottling (黑色花驢), zebras, camel-footed birds (ostriches), gold coins, and leopards.

The goods (used by the Chinese) in trading here are gold, silver, coloured satins, blue and white porcelain, sandal-wood, and pepper.

Its ruler, in gratitude for the imperial favours, went in person to Court with presents.

75 (1). *Ying yai shêng lan*. 15. TSU-FA-EEH (祖法兒), Djofar.

This country is between the sea and the mountains.²⁾ To the east and south is nothing but the sea. To the north and west are ranges of mountains. One reaches it from the kingdom of Ku-li (Calicut) journeying north-westward for ten days and nights. It has no walled towns or villages. The people all follow the religion of the Moslems. Their physical appearance is good, their culture is great, the language sincere.

1) Pei Hsin makes frequent use of the term *ling yang* instead of *yang*, see *supra*.

Hsi yang chao tung tien lu, 3, 10 (Hu-lu-mo-shi) says that at Ormus they had four kinds of sheep: (1) Nine-tailed sheep, (2) Big-tailed sheep, (3) Dog-tailed sheep, and (4) Fighting sheep. In a footnote it adds: "The big-tailed sheep have a tail over a foot broad which drags on the ground and weighs over twenty catties. The dog-tailed sheep has a tail like a goat over two feet long. The fighting sheep (rams) are two feet seven or eight inches high. In front their wool is left long, on the hindpart it is clipped short. Its head is like that of an ordinary sheep; the horns bend forward, and on top of them they carry brass plates which jingle as they move. This kind of sheep is fond of fighting, and amateurs (好事者) raise them to bet on for money or other things."

2) First mentioned in Chinese literature in *Chu-fan-shih* under the form *Nu-fa* (奴發). Hirth and Rockhill, *op. sup. cit.*, 116, 195.

Ming shih, 320, 7, says it first sent a mission to the Ming in 1421, and that Ch'ang Ho went there during his mission of 1421 and that of 1430.

The king wraps around his head a piece of fine white cotton. His clothing is of light blue flowered silk, or a woven gold brocaded robe. He wears boots or sandals. Before and behind a detachment (mounted on) elephants, camels, and horses, accompany him, all playing on *pi-li* (箏簫, pipes) and *so-na* (鎖棕, Persian *zurna*, flageolets).

The people wear a turban, a long gown, boots, or shoes. On the day of prayer (*shuma*) they close their business for half a day, (then) both old and young bathe, change their clothing, and anoint themselves either with rose-water, gharu-wood, or frankincense, both their clothes and their bodies. After which they burn on a brazier gharu or sandal-wood, and then they perform their religious ceremonies. After its termination they scatter perfume all over the streets and market places, give alms (?半餉), and with that it is over.

As to marriages and funerals, they follow the Moslim teaching. The climate is continually as in autumn; there is no cold.

In trading they use a gold coin weighing two mace, which is one inch and a half (*sic*) in diameter, with characters on it and the image of a man; also copper coins weighing four candareens.

The native products are frankincense, which is the sap of a tree. There is also dragon's blood, aloes, myrrh, *an-hui-hsiang* (benzoin), liquid storax (蘇合油), *mu-pieh-tzū* (*Momordica cochinchinensis*), and the like, all of which they exchange for Chinese hempen cloth (紵), silks, and china-ware.

They have rice, wheat, beans, both the *su* (粟), the *shu* (黍), and the *chi* (稷) varieties of millet, hemp, gourds, and egg-plants, as likewise cattle, horses, mules, cats, dogs, and ducks.

The "mountain-camel-bird" (山駝鷄, i. e., ostrich) has a slim neck, a fowl's body like a crane's, but three to four feet long.

feet with two toes, and hair (毛) like a camel, hence it is called "camel-bird."¹⁾

As to camels, they have those with a single hump, and those with double humps. The people use them for riding, and their flesh is also for sale in the markets.

Its tribute (to the Court of China) is frankincense, camel-birds (ostriches), and other objects.

75 (2). *Hsing ch'a shêng lan*, 38. TSO-FA-KUH (佐法兒).

With a fair wind one may reach this country from Calicut in twenty days. The walls are made of rocks, the houses of layers of *lo-ku* (羅股石, coral stone?); they are three or four storeys high, in shape like pagodas; the kitchen and bedrooms are all on top. The country is extensive, but the crops sparse. The soil is brownish, and has no vegetation. The people take fish in the sea and dry them, eating the larger ones, and feeding the smaller ones to their cattle, horses, camels, and sheep.²⁾

1) Cf. *supra*, 74 (1) where the ostrich is called by Ma the "black and white camel-bird." Wang Ta-yüan (*Tao i shih liu*, 74) speaking of a place in Africa called Ma-na-li (麻那里) refers to ostriches as "fairy crane" (仙鶴), over eight feet high, and which fed on stones. "If it hears a person clapping his hands, it stretches out its wings, and dances. A queer sight to see! Of a truth it is a weird thing!"

Fei Hsin (*supra*, 77 (1)) calls the ostrich *ts'o* (駝) (駝蹄雞) or "camel-footed bird."

2) Ibn Batuta (II, 196) says, "We embarked at Odu'a for the city of Zha'far al-humdhah ("Zha'far of the salt and bitter plants").... It is situated at the extremity of the Yemen on the coast of the sea of the Indies, and horses of price are exported thence to India, the voyage during a full month, if the wind is favourable; and I myself have once done in twenty-eight days the voyage from Kālikūth, a city of India, to Zha'far.... The town of Zha'far is in a desert country, without villages or dependencies. The market is outside of the town, in a suburb called Harājū, and it is one of the dirtiest, worst smelling of markets, and with most filth, on account of the great quantity of fruit and fish sold there.... Nearly all the vendors in the market are women slaves, all dressed in black. The principal culture of the people of Zha'far is millet (*dhurra*) which they water by means of very deep

Men and women do up their hair in knots. They wear a long shirt.

When they go out, they cover their heads and faces with a cloth, so that the men may not see them.

They are honest in their usages.

The products are the *tsu-lo-fu* (祖刺法, giraffe), gold coins, leopards, ostriches, frankincense, ambergris.

The goods used (in trading) are gold, silver, sandal-wood, rice, pepper, satins, light silks, china-ware.

The ruler, touched by the imperial bounty, sent a mission to Court with objects of tribute.

76 (1). *Hsing ch'a sheng lau*. 33. PU-LA-WA (卜刺哇). Brawa.¹⁾

Going south from Pieh-li-lo (Belligam) in Hsi-lan (Ceylon) one can reach this country in twenty-one days. It is near the country of Mu-ku-tu-shu (Mogadisho) and lies along the sea-coast. The town walls are made of rocks, the houses of layers of stones. The island (山) is without vegetation, the land a broad, salty waste. It has a salt lake in which, however, grow trees with branches. After a long time they pull them out of the water, when their fruits, or seeds, become white salt.

wells. . . . They have also a kind of wheat, called 'asar, but which in truth is a kind of barley. Rice is imported from India, and it constitutes the principal food of the inhabitants. The dirhems of this town are an alloy of copper and tin, and are not current elsewhere. . . . The inhabitants of Zhaifu are modest, with good dispositions, virtuous, and loving foreigners. Their clothing is of cotton, which is imported from India. . . ."

1) Cf. Bruckhauider, *Ancient Chinese and Arabs*, 21. His translation is from *Ming shih*, 326, 7^o-8^o. Yei Hsin was the first Chinese writer to mention this place and also Chu-pu (77 (1)), Lo-sa (78 (1)), and Mogadisho (79 (1)). No mention is made of any of these places in the *Hsi yang chao kung tien lu*.

Ming shih, 326, 7^o, says that between 1416 and 1423 it sent four missions to China, and that Cheng Ho visited it twice (during that time). He again went there during his mission of 1430. In the enumeration of the countries visited by Cheng Ho in *Ming shih* (330-4, 2) it is said he went to Pei-la (北刺). I think this is an error for Pu-la-wa.

In their habits the people are virtuous. They do not till the soil, but earn their living by fishing. Men and women roll up their hair, wear a short shirt, and wrap around them a piece of cotton. The women wear gold coins in their ears, and around their necks a pendant fringe. They have only onions and garlic, but no gourds of any kind (瓜茄).

The natural products are the *ma-ha* animal (馬哈獸, civet cat?) which is like the *shé-chang* (麝獐, musk deer), the *hua-fu-lu* (花福祿, zebra) which is like a piebald donkey, leopards (豹), *chi* deer (麋), rhinoceros, myrrh, frankincense, ambergris, elephants' tusks, and camels.

The goods used (by the Chinese) in trading are gold, silver, satins, silks, rice, beans, and china-ware.

The ruler, touched by the imperial bounty, sent tribute to our Court.

77 (I). *Hsing ch'ia shing lan*. 34. CHU-FU (竹步國). Jabo.

This locality is adjacent to Mu-ku-tu-shu (Mogadisho).¹⁾ The village is pretty deserted (村君寥落). The walls are of rocks, the houses of layers of stones.

Here also the customs are pure. Men and women roll up their hair. The men wrap around them a piece of cotton cloth; the women, when they go out, have a head-covering of cotton cloth; they do not expose either their bodies or their faces. The soil is of a yellowish, reddish colour. For a number of years it may not rain. There is no vegetation.

They draw water with cog-wheels from deep wells (絞車深井).²⁾ They earn their living by fishing. The natural products

1) Cf. Bretschneider, *op. cit.*, 22.

2) *P'ai wen yüan fu*, v. 7. 絞, says 兩軸絞相. 絞兩輪相撐. Cf. what Ibn Batuta says in speaking of Djofar (*supra*, 75 (2), note) concerning the deep

are lions, gold coins, leopards, camel-footed birds (ostriches), which are six or seven feet tall, and with feet like a camel's, frankincense, amber (金珀).

The goods used (by the Chinese) in trading are vermilion (? 土硃), satins, light silks, gold, silver, china-ware, pepper, rice.

The ruler, having received the imperial presents, was filled with gratitude, and sent articles of tribute.

78 (1). *Hsing ch'a shêng lan*. 37. LA-SA (刺撒).¹⁾

It can be reached in twenty days from Ku-li (Calicut) with a fair wind. It is on the sea-coast. The walls are of rocks. Adjacent to the hills (or, near this place, 連山) it is a desert. There is no vegetation. Cattle, sheep, camels, horses, are all fed on dried sea fish. The climate is constantly hot. The soil is barren, the crops poor, though there is wheat. It does not rain for years at a time. They dig wells, and draw the water by means of a pair of cog-wheels in a sheep-skin bag (絞車羊皮袋水).

Both sexes do up their hair in a knot (拳髮), and wear a long shirt. The women cover their heads like those of Hu-lu-mu-sai (Ormuz). The walls (of the town) are of layers of stone, the houses are of mud and three or four storeys high, on top are the kitchen

walls. See also *infra*, 79 (1) and 79 (1). *Ming shih*, 326, 9* says it sent frequent missions to China during the Yang-lo period, and that Chêng Ho visited it, but no date is given.

1) Cf. Brönnhølder, *op. cit.*, 21. This locality remains unidentified. It would seem that it must have been near the two preceding ones, that is to say, on the Somali coast. It seems possible that La-sa is an error for Sa-la which may be Zella on the Berbera coast and which, according to Ibn Batuta (II, 180), extended to Mogadishu (Makdashu). The old Chinese map of Geo. Phillips shows a La-sa (刺撒) between A-tan (阿丹, Aden) and Shib-li-erh (失里兒, Djofar); perhaps this is the correct location of La-sa, though I incline to look for it on the Somali coast. *Ming shih*, 326, 9* says nothing of its location. It sent a mission to China in 1415, and subsequently on two occasions. Chêng Ho visited it during his missions of 1417 and 1430.

and sleeping rooms, and here guests are entertained. On the lower storeys live the slaves.

The products are ambergris, frankincense, thousand *li* camels. The people are sincere. They have funeral ceremonies. They address prayers to the devils and gods.

Their ruler, moved by the imperial bounty, sent an envoy with a memorial on a leaf of gold and articles of tribute.

The goods (used by the Chinese in trading here) are gold, silver, satins, light silks, china-ware, rice, pepper, sandal-wood, *kin-yên* (*hsiang*, benzoin).

79 (1). *Hsing ch'a shêng lan*. 35. MU-KO-TU-SHU (木骨都束).
Mogadisho.¹⁾

Going from Hsiao Ko-lan (Kulam) with a favourable wind one can reach this country in twenty days. It is on the sea-coast. The walls are piles of stones, the houses are of layers of stones and four or five storeys high, the cooking and the entertaining of guests all being done on top.

The men do up their hair in knots hanging all around (拳髮四垂) and wrap cotton cloth around their waists. The women do up their hair in a chignon behind and brighten up the crown with yellow varnish (黃漆光頂). From their ears hang a number of strings (of coins?), around their necks they wear silver rings, and a fringe hangs down on the breast. When they go out, they cover themselves with a cotton sheet, and veil their faces with blue gauze. On their feet they wear shoes or leather slippers.

Near the (foot of the) mountain the country is a desert of brownish soil and stones. The soil is poor, the crops sparse. It may

1) *Ming shih*, 326, 7*, says it sent a mission to China in 1416, and that Chêng Ho visited it during his missions of 1417 and 1430.

not rain (sometimes) for a number of years. They make very deep wells and draw up the water in sheep-skin bags by means of cog-wheels (絞車以羊皮袋水). They are excitable and obstinate (囂頑). Archery is a part of their military training. The rich are neighborly with the people. The poor people get their living by catching sea-fish in nets; these they dry and eat, and also feed their camels, horses, cattle, and sheep on them.

The native products are frankincense, gold coins, leopards, ambergris. The goods used in trading (here by the Chinese) are gold, silver, coloured satins, sandal-wood, rice, china-ware, coloured taffetas. The ruler, in pursuance of custom, brought articles of tribute.

80 (1). *Tao i chih li*. 92, T'IENT'ANG (天堂). Mecca.

Most of the land is a sandy desert. It was anciently called the land of Yün-ch'ung (筠冲), and it has also the name of the Western City (西城).¹⁾

The whole year it is as warm as in spring time (風景融和四時之春也). The soil is fertile, and rice grows. The people live in contentment.

There is a land route from Yün-nan which, in a year or more, leads to this country. There is also a way thither by the Western Ocean. Its generally used name is "the Heavenly Hall" (天堂). They have the Moslim calendar which differs from the Chinese *shou shih* calendar (授時屏) throughout the whole length (of

1) Cf. Bretschneider, *Medieval Researches*, II, 303-304. I have found no explanation of the name Yün-ch'ung; can it be intended to transcribe *Yathrib*, which is said to have been the ancient and proper name of Medina or its territory? The name does not occur in the early Chinese descriptions of Arabia, *T'ang shu*, 221² and *Sung shih*, 400. In the former Medina is called Mo-ti-na (摩地那).

the year) by three days. Their calculated number of days never varies.¹⁾

The climate is hot. In their customs they esteem goodness. Men and women braid their hair and wear fine cotton shirts wrapped around with a piece of fine cotton.

The Western horses over eight feet high are raised in this country. The people live mostly on mare's milk mixed with rice (拌飯爲食), so they are stout.

As trading goods there are used (here) silver, coloured satins, blue and white porcelain, iron pots, and such like things.²⁾

80 (2). *Hsing ch'a shing tan*. 40. TIEN-FANG (天方).

This kingdom can be reached from Hu-lu-mu-ssu (Ormuz) in ten days. It is the remotest of the Western Ocean. It is said that there is a land route which leads, after a year's journey, to China. It is for the most part a desert, sandy waste. It was anciently known by the name of Yun-ch'ung (雲冲), and was part of the Hsi-yü (西域, Western Regions).

The climate is mild, being spring-like during the whole year. The soil is fertile, and rice abundant. The people follow peaceful pursuits. Men and women wear a long white shirt. The men shave their heads and wrap a turban around them. The women plait their hair and wear it in a coil. In their customs they like goodness. The ruler has no trouble with the people, nor has he to inflict punishments on them, for they are naturally good; theft and

1) Korsa, Sura IX, says: "Moreover the complete number of months with God is twelve months, which were ordained in the book of God.... Verily the transferring of a sacred month to another month is an additional infidelity...." Sale's translation (London, 1880), 153. The intercalation of months was consequently strictly forbidden.

2) Cf. Hirth and Rockhill, *op. sup. cit.*, 124.

robbery are unknown, and high and low live in peace and harmony. ¹⁾

In olden times they built a mosque. The first day of the month is when they (first) see (the new) moon, (then) the ruler and all the people worship Heaven. The ceremony consists solely in calling out its praise. This temple is divided into four squares (方), each square has ninety divisions (間), there are in all three hundred and sixty divisions. The pillars are of white jade (白玉, i. e., marble?), the ground of yellow *kan-yü* (甘玉?). ²⁾ In the temple there is a black stone which is over ten feet square. It is said that in the time of the Han it first came down from Heaven. The storeys of this temple are of medium height, the tops are like a pagoda (i. e., dome-shaped?). In view of the heat of the day they hold their markets after sun-down and into the night. ³⁾

The natural products are gold, amber, precious stones, pearls, lions, camels, *tsu-la-fa* (giraffe), leopards, deer. They have horses eight feet high, and which are called Heavenly Horses (天馬).

1) Pei Hsin has drawn from Wang Tsü-shan's book for these two paragraphs. The name T'ien-fang or "Heavenly square" is taken from the Arabic *Kaaba* or "Cube." See Hirth and Rockhill, *op. sup. cit.*, 123, note.

2) It seems possible that *kan-yü* is an error for *lu-kun* (綠甘) which Chao Ju-kua mentions as the material used for the walls of the palace of the Caliph, and which may represent Arabic *raddüm* 'marble' or 'alabaster'. See Hirth and Rockhill, *op. sup. cit.*, 115, 120, n. 4.

3) *Hsi gang chao kung tien lu*, 3, 15* (T'ien-fang) says: "A hundred li to the west of this country is the city of Mo-ti-na (慕底納, Medina). To the east of the city (of Medina) is the tomb of the holy Mo-han-mo-tü (謨罕慕德神人). On the top of the tomb there is constantly day and night a brilliant coloured refulgence. Behind the tomb there is a spring called *a-pi ts'au-t'ao* (阿必糝糝, i. e., the well Zemzem); its water is delightfully sweet, and has the power of quelling the raging waves. Those who journey by sea carry it on board their ships. If a storm suddenly arises, they sprinkle it (on the waters) when the waves and billows subside." Cf. Hirth and Rockhill, *op. sup. cit.*, 111, 113, n. 2.

The same work (3, 14*) states that the great mosque (of Mecca) was called *K'ü-pai* (檀阿白, Kaaba). This is the only passage in which the name Kaaba occurs.

The goods used (in trading here) are gold, silver, rolls of satin, coloured silk taffetas, blue and white porcelain, iron caldrons, and pans (鍋).

The ruler of the country and his ministers are very grateful to the Heavenly Dynasty, and their missions are constantly bringing presents of lions and *k'i-lin* (giraffes) to offer up as tribute.¹⁾

81 (1). *Tao i chih li*. 97. MA-no-ssu-li (麻呵斯離). Moanl (?)²⁾

(This place) is over eight thousand *li* from the country of the Arabs, and is adjacent to the kingdom of Ch'ing-pan-nu (鯨板奴). It is two hundred and odd *li* away from the sea, by a stream falling into it. (There is also) a rocky road, rough and irregular, which leads, after three hundred odd *li*, to the seat of government.

The land is as flat as a table. The climate is equable. The customs and usages are thrifty. Men and women braid their hair. Their eyes

1) *Hsi yang chao sheng tien lu*, 3, 16^b (T'ien-fang) says: "In the *kuia-té* period (1426—1436) the envoy Cheng Ho on arriving in the Western Ocean sent an interpreter and seven men on native ships to this country with imperial presents of musk, porcelain, pieces of satin. They got back in a year's time and brought with them rare precious stones of various colours, giraffes, lions, ostriches, etc., and also a plan of the great mosque (lit. the T'ien-fang, or Kasba). The king of T'ien-fang sent also his minister Sha-wan (沙巖) and others with presents for the Court." See also Bretschneider, *Medieval Researches*, II, 294—300.

2) This is presumably the Wu-ssu-li (勿斯離) of Chan Ju-kua, which has been identified with Moanl. See Hirth and Rockhill, *op. sup. cit.*, 140. What Wang says of manna is interesting, as for the rest of the chapter it seems to be a jumble absolutely inexplicable and certainly having nothing to do with Moanl.

In another chapter of his work (Po-ssu-li) which seems to me of much the same quality as the present one (for it may refer to any part of Persia or Turkestan where, as he says, "they eat roast mutton and wear camel's hair cloth shifts") Wang notes that the goods used in trading consist in felt and rugs, coloured satins, Yün-nan leaves (雲南葉), gold, silver, Wu iron (倭鐵, Japanese iron?), lacrian seed, ivory comb, iron-wax,

Ta-la-ssu-li perfumes (達刺斯離香), and such like things. I have no means of explaining these terms; *ta'g-mo-ssu-li* may be an error for Ta-la-ssu-li, or vice versa.

are (round?) like a brass bell. They wear a long shirt. They boil sea-water to make salt, and ferment sirih leaves (i. e., leaves of the *Piper betel* L.) to make spirits. They have chiefs.

The native products are rock salt (青鹽), mares' milk, grapes, rice, and wheat. The grains of their wheat are over half an inch long.

Every year in the eighth and ninth moons it rains manna (甘露), then the people make a pool to collect it in. At sun-rise, when it condenses like (drops of) water, they dry it. Its flavour is very like that of crystallized sugar. They also store it away in jars and mix it with hot water to drink as a cure for malaria (瘴癘). There is an old saying that this is the country of the Tathagata, the manna king (甘露王如來).

The goods used in trading are *ts'ü-su-sü-f* cotton cloth (刺速斯離布), dark gold (紫金), white copper, coral (青琅玕), *Shê-p'o* (Java) cotton cloth, etc.

82 (1). *Tao i chih ho*. 94. T'ĕng-yao-lo (層搖羅). Zanguebar.

This country is to the south-west of the Ta Shih (Araba).¹ There are no trees on the coast; most of the land is saline. The arable ground is poor, so there is but little grain of any kind, and they mostly raise yams to take its place.

If any ship going there to trade carries rice as cargo, it makes very large profits.

The climate is irregular. In their usages they have the rectitude of olden times.

1) This seems to be the T'ĕng-pa (層拔) or Zanguebar of Chao Ju-kua or his K'ün-lun T'ĕng-k'i (崑崙層期), which there is good reason for thinking included the island of Pemba and Madagascar, or both. It seems therefore likely that the name should be corrected to read T'ĕng-pa (拔)-lo. *Tao i chih ho tsung ch'ap*, 2, 17, indicates this amendment as necessary.

Men and women twist up their hair; they wear a short seamless shirt. The occupation of the people is netting birds and beasts for food.

They boil sea-water to make salt and ferment the juice of the sugar-cane to make spirits. They have a ruler.

The native products comprise red sandal-wood, dark red sugar-cane, elephants' tusks, ambergris, native gold, *ya-tsu tan-fan* (鴨嘴膽礬, lit., "duck-bill sulphate of copper").¹⁾

The goods used in trading are ivory boxes, trade silver, coloured satins, and the like.

83 (1). *Tao i chih ho*. 96. KAN-MAI-LI (甘埋里).

Comoro Islands (?).

This country is the land of the fleet horses of the south-west, and is not far from Fo-lang (與佛郎相近, the country of the Franks). Riding the winds with all sails set one can reach it in two months from the country of Kū-nan (Quilon).²⁾

They build ships in this country to transport horses. Their sides are of planks, and they use neither nails nor mortar (to join them), but coco-nut fibre. Each ship has two or three decks with a board shed (over the upper deck?). To make head against leaking, the sailors take turns, day and night, without any intermission, at bailing out the water. In the lower hold of the ship they carry a

1) Chao Jek-na refers to the natives of Chung-li (中理, Somali coast) netting birds of passage. He also refers to sandal-wood, ivory, and ambergris as products of Ts'ung-pa. Marco Polo (II, 404) speaks of the red sandal wood of Madagascar. See Hirth and Benthall, *op. sup. cit.*, 126, 149.

2) This is the first and only reference to these islands I have found in Chinese geographical works. I think there is little or no doubt that the Comoro islands are here referred to. Oman was the principal shipping point for horses to India in the time of Marco Polo and Ibn Batuta. On the ships for carrying horses, cf. *Marco Polo*, I, 108.

mass of pressed-down frankincense (下以乳香壓重); above this they carry several hundred heads of horses.

The horses have small heads, thin tails, deer-shaped bodies, with well drawn-up bellies, and hoofs that are as hard as steel. They are over seven feet high, and in the space of a day and night can travel a thousand li.

There is also found (in Kan-mai-li) patchouli, and a variety of ambergris. All (other) products (obtained or for sale here) come from Fo-lang (the country of the Franks).¹

Merchants who go to trade in the Western Ocean carry out with them such things as cloves, nutmegs, blue satins, musk, red beads, Su-chou and Hang-chou coloured satins, sapan-wood, blue and white porcelain-ware jars, and iron in bars. They make the journey home with pepper which brings them great profit. No ships carry out with them, roughly speaking, goods of the value of the tenth part of what they bring back.

84 (1). *Tao i chih li*, 91. LI-CH'IEH-YA (哩伽塔).²

Berbera Coast (?).

This kingdom is in the extreme western part of the world (遼西之界), but the king lives on the sea coast.

1) Chao Ju-kua (P'i-pa-lo, Berbera coast) refers to the patchouli produced there. He says elsewhere (Pl. I, 25) that it came from the Hadramaut coast. On ambergris, see *supra*, 33 (2), note.

2) *Tao i chih li tsung-ching*, 2, 16*, says the first character should be Mo (默), and he suggests Mascot (馬斯哈特). If the correction to Mo-Yieh-t'a is right, then we have, as this work also notes, Chao Ju-kua's Mo-k'ieh-la (默伽獵, Mogreb-el-akaa, the Far West, Morocco). In this case the coral fisheries may either be those referred to by Chao as existing along the Mogreb coast, or those near the coast of P'i-no-yeh (毗諾耶, Tunis and Tripoli). See Hirth and Rockhill, *op. sup. cit.*, 154, 226. The people described here by Wang Ta-yuan seem, however, to be negroes or Somalis; the milk diet of the people points to the latter.

The land is poor, glutinous millet (黍, *dura*) is raised on it.

The people make their dwellings with tiers of stones. They excavate the earth to a depth of over ten feet to store the grain in, and it will keep for three years without rotting.

The climate is hot in the autumn, and cool in summer. The customs are simple. Men and women are long and lank and of strange appearance. Their hair is two inches long, and does not seem to get longer. They wear *pu-t'ung* garments (布桶衣) with a black sarong tied around them.

They boil sea-water to make salt, and ferment glutinous millet (*dura*) to make spirits. They live on cow's milk.

Among the local products is the *ch'ing-lang-kan* coral-tree (青琅玕珊瑚樹). This tree is from over ten feet to seven or eight or even only one foot in height. In autumn and winter the people go in boats to gather it. To a wooden cross-pole they fasten a net with strings attached to it above. Then they fasten ropes at both ends of the wooden (cross-pole), and the men in the boats haul it along cutting off the trees which are pulled up in the net.

The goods used in trading are silver, coloured satins, Wu-lun cotton cloth, and such like things.

85 (1). *Tao i chih ho*. 98. Lo-p'o-su (羅婆斯).¹⁾

Berbera Coast?

This country (國) is adjoining the mountains to the right (i. e., the west) of Ma-kia-na (麻加那之右山聯屬). A

1) It seems possible that Lo-p'o-su is the Lao-p'o-su (老勃薩) of the *Tang shu*, 221, which was possibly on the Somali coast; the drinking of the blood of animals points that way also. Hirth, *China and the Roman Orient*, 204, places it, however, in the Sinai Peninsula. This again is one of the countries which the author certainly did not visit, and the account of which probably caused Ma Huan to doubt the credibility of the story when he read the book before embarking on his voyage.

weird-looking peak rises aloft (奇峯磊磊) in shape like a phantom horse dashing away (如天馬奔馳). This locality (i. e., Lo-p'o-ssü) is situated close to the sea.

Males and females are strange looking. They do not weave, and they have no clothing; they cover their bodies with birds' feathers. They do not use fire in preparing their food, but gobble the skin (and all), and drink the blood. They nest in caves, and nothing more. But though their food and lodgings are primitive (節宜之), it matters not (不可關也). Silk, fine and coarse hemp (絲麻絺紵), the succession of cold and heat, can they not be disregarded? What are the differences in climate a thousand *li* to the north and south of the Lo (river) compared to those of the miserable countries in the Ocean!

This country is scorching hot (?其地鐘湯之全), so the inhabitants need not be concerned at not having any clothing, and they naturally follow the moving chariot of space and time. No wonder they gobble their food, that they do not choose their nesting places, and that they are not concerned with trade: it is the Paradise of remote antiquity! (太古之天矣).

CHRISTIANS AT CHÈN-CHIANG FU

BY

A. C. MOULE and LIONEL GILES.

The existence of Christian Churches at Chên-chiang in the thirteenth century is recorded by Marco Polo in his chapter on that place, which reads as follows:—

Ci deuise de la cite de Cinghianfu.

Cinghianfu est une cite dou mangi. les iens sunt ydules & sunt au grant kaan. & ont monoie de carte il nivent de merchandie & dans il ont soie asçq il font dras d'ores & de soies de maintes faisonz il hi a riches mercant & grant il ont uenefonç & chaceison de bestes & de osiaus asçq. il ont grant plantei des bles & des chouses de uire il hi a deus eglise de cristienz nestorin & ce sunt des .m.cc.lxxviii. anz. de l'incarnacion de crist en ca. e noç dirai comant il sunt. il fu uoir qe unques nei auoit en moietier de cristienz. ne nei en dieu cristienç iusque a .m.cc.lxxviii. anz. hi fu seingnor por le grant kaan trois anz marsarchis qui estoit cristienz nestorin. Et cestoi marsarchis hi fist faire celles .ii. eglise & de celes tens en cha hi a eu glise que deuant nei auoit: eglise ne cristians ne or nos partiron de ceste mainerie. & noç conteron dune autre cite mont grant qe est apelles tinghingiu.¹⁾

1) Paris, Bibl. Nat., MS Français No. 1116, fol. 65 r^o (c. cxlviii): *Recueil de voyages*, tom. I, 1934, p. 165 (c. CXLIX). Cf. YULE-COEDEN, *Marco Polo*, vol. II, p. 176, 177; and *J.N.C.B.R.A.S.*, vol. xli, 1916, p. 34. Cinghianfu is of course Chên-chiang or

This passage has been corroborated in the most interesting way and very much amplified by the notices of Christians which were discovered by the late Archimandrite Palladius about forty-five years ago in the *Chih-shun Chên-chiang chih*. Palladius published versions of some of these first in Russian, we believe, in 1873 and then in English in *The Chinese Recorder*, 1875, pp. 108-113. The most important of the Chinese texts was printed by the late H. Havret S.J. in *Variétés Sinologiques* No. 12, 1897, pp. 385, 386. For further acquaintance with the Chinese texts we are indebted first to Monsieur P. Pelliot who very kindly placed at our disposal the extracts he had made at Moscow, and secondly to the bookshop of the Church of England Mission at Peking which under Bishop Norris' prompt and energetic management has obtained for us a copy of the book itself. This is now the property of M. Pelliot.

Neither the *Chih-shun Chên-chiang chih* nor the still older *Chia-ting Chên-chiang chih* is included in Oh'ien-lung's Great Catalogue. They were not known to be extant until a manuscript copy came into the possession of 阮元 Yüan Yüan in 1795. He presented this to the Imperial Palace, after making two transcripts, one of which he deposited in the Library of the 焦山 Chiao-shan Monastery; the other he kept in his own 文選樓 Wên-hsüan lou. Both works are anonymous; but the 書錄解題 *Shu lu chieh ti* names 盧憲 Lu Hsien as the author of the earlier topography, while the Yüan work, in the opinion of 柳賓叔 Liu Pin-shu, came from the hand of 俞希魯 Yü Hsi-lu, a native of Chên-chiang. This attribution is confirmed by 陸心源 Lu Hsin-yüan²⁾.

Chienkiang on the right bank of the Yangtse about 140 miles from its mouth and at the point where the Grand Canal crosses the river. For *il hi a diu aghia* etc. the Paris MS. Latin No. 8198 (printed in the *Banuel* etc. tom. I, p. 423) reads: *In tota civitate sunt tres ecclesie christianorum nestorianorum.*

2) *CSCO*, c. xix, f. 9 v^o; 校勘記, c. 1, ff. 1-2. 函宋樓藏書志, c. xxxi, fol. 13, 14; 善本書室藏書志, c. xi, fol. 14 v^o, 15 r^o.

The title of the latter book shows that it was written before 15 November, 1333, when the Chih-shun reign ended, and as the text (c. xvii, fol. 4 v^o) mentions the tenth month of the third Chih-shun year (20 October—18 November, 1332) it would seem to be reasonable to give 1333 as the probable date of composition. It was not until 1842 that the two works were printed, from the two duplicate copies mentioned above. They were edited by Yüan Yüan, then seventy-eight years of age, with the help of several friends, including 包景維 Pao Ching-wei, who was responsible for the actual cutting of the blocks. Yüan Yüan contributed a preface, dated on the summer solstice of 1842, and a body of critical notes was added by 劉孟瞻 Liu Méng-chan and his son 伯山 Po-shan³). This printed edition is now itself uncommon. Two copies are in the Roumiantsov Museum at Moscow, one (formerly belonging to Mr Clement Allen) in the British Museum, and one in the Library of the Jesuit Mission at Zikawei near Shanghai. There appears to be no copy in the Wade Collection at Cambridge or in the very remarkable collection of Topographica (志 *chih*) lately made by M. Pelliot for the Bibliothèque Nationale at Paris. Zikawei possesses also the manuscript copy prepared for publication by Yüan Yüan. There was a modern manuscript copy and, no doubt, a copy of the printed edition in

3) This edition is in fourteen volumes, the pages measuring 11½ in. by 7 in. On the title-leaf we read 宋嘉定鎮江志二十二卷元至順鎮江志二十一卷校勘記四卷：附輿地紀勝鎮江府一卷。道光壬寅仲夏丹徒包氏刊版 "Records of Chên-chiang in the Chia-tung period of the Sung dynasty [A.D. 1208—1224], in twenty-two chapters; Records of Chên-chiang in the Chih-shun period of the Yuan dynasty [A.D. 1330—1333], in twenty-one chapters; Critical Notes in four chapters [two in each work]; Appendix: a chapter on Chên-chiang Fu from the Yü ti chi-sheng [c. vii]. Blocks cut by Mr Pao of Tzu-t'u in the second month of summer in the jün-yin year of Tzu-huang [June-July, 1842]." The references below are to this edition, the titles of the two books being shortened to CTCCC and CSCCC respectively. Nearly half of the former work, in its original form, and a considerable portion of the latter is missing.

the great library of the late Mr 丁丙 (字松生) Ting Ping (styled Sung-shêng) in the 頭髮巷 T'ou-fa hsiang at Hang-chou.

The passages in which Christians are mentioned in this old book form perhaps the most interesting of the many pieces of evidence for the prevalence of Nestorian Christianity in China and, fragmentary though they are, give us full an account as we can expect to have of a Christian community in China six hundred years ago. And so it will not perhaps be thought superfluous to print a complete translation of every relevant passage which has been found, together with the Chinese texts in full, and rather detailed notes.

TRANSLATIONS OF THE CHINESE TEXTS.

1. "The Ta-hsing-kuo Monastery is in the Chia-tao lane. It was built in the eighteenth Chih-yüan year (A.D. 1281) by Hsieh-li-chi-sü⁴), assistant ta-lu-hua-ch'ih (*darugha*) of this Circuit: Liang Hsiang, Director of Classical Studies⁵), wrote a commemorative

4) Sargis. This name, or Mar Sargis, appears in the form 馬薛里吉思 Ma Hsieh-li-chi-sü elsewhere in this book; 薛兒吉思 Hsieh-erh-chi-sü (Governor of the circuit of Hang-chou in 1364) in the 萬歷杭州府志 *Wan-li Hang-chou-fu chih*, c. civ, fol. 29; 昔兒吉思 Hsi-erh-chi-sü or 昔里吉思 Hsi-li-chi-sü in the *Yüan Shih*; 摩薩吉思 Mo Sa-chi-sü in the *Praise of the Holy Trinity* (敦煌石室遺書, vol. iii, 景教三威蒙度讚, fol. 2, cf. *BEPEO*, VIII, pp. 518, 519); and several times in Syriac (𐤌𐤒𐤓𐤕𐤍) without Chinese transcription on the Hsi-an fu Monument (cf. *Haver, Far. Sin.* No. 7, pp. lxxx-cii; No. 29, pp. 61-65).

In *CSCCC*, n. xix, fol. 12 r^o, the writer of the original manuscript seems to have been puzzled by this name. Doubtless under the impression that 馬 was the surname, he wrote 馬薛里 in large characters, and joined 吉思 to 也里可溫 as part of the commentary. This has been corrected in the printed edition. — See 校勘記, n. ii, fol. 13.

5) A Director of Classical Studies was attached to the staff of each 路 *lu* or Circuit; cf. *Yüan Shih*, c. xci, fol. 6 r^o. Liang Hsiang, a native of Hang-chou, was appointed to

inscription. The substance of it was as follows: Hsieh-mi-sü-haien ⁴⁾ is distant from China more than ten myriad li ⁵⁾ to the north-west. It is a land where the yeh-li-k'o-wên ⁶⁾ practise their religion. When I humbly asked about this so-named religion, they said that in the whole world there were twelve Monasteries of the Cross; ⁷⁾

the post in January 1289: 梁相字必大杭州人大德二年十二月至. CSCCC, c. xvii, fol. 10 r°. The topographer, writing in 1333, not unstarably gives Liang Hsiang (as perhaps also Wan-tê below) the higher position to which he only attained after the time in question.

5) Samarkand. Cf. BARTHOLD, *Medieval Researches*, II, 38—50. Mer Sargis was apparently a native of Samarkand. Speaking of Marco Polo's Argons Colonel YULE says: "Another tradition derives their origin from Samarkand. And it is remarkable that Rashidoddin speaks of a town to the west or north-west of Peking, 'most of the inhabitants of which are natives of Samarkand,' ..." *Marco Polo*, vol. I, p. 291.

7) About 30000 miles; probably a slip for one myriad li or 3000 miles, which would be somewhere about the actual distance.

8) This term is found in several historical works and inscriptions of the Mongol period, and means a Nestorian (or perhaps simply a Christian) monk, or, less exactly, a Christian. In several places in the CSCCC and in at least one place in the *Yüan Shih* (c. cxviii, fol. 6 r°) it is used, as 回回 Hai-hui (Muslim) also is, as if it were a national designation. The Armenian historian STEPHEN OSEPELIAN writes: "These Christians whom the Mongols call Ark'hain" (D'ONSON, *Hist. des Mongols*, tom. II, p. 264, n. 1). The Mongol form is *arkhān*, found in European authors in the spellings *archan*, *arcana*, *arctian*, *arctum*, *arhana*, or *erlekhua*. It has been conjectured that it is a transcription of the Greek *ἀρχων*, or of the colloquial Syriac *arhān* ^{ܐܪܗܢ} "archdeacon", or that it is connected with the Tatarish *arhān*, "fair-complexioned". It is probably not the same word as Marco Polo's *argos* (cf. note 6, just above). In two places (c. v, ff. 1 r°, 7 r°) the *Yüan shih* (revised text of 1739) reads 伊嚕勒昆 I-lu-lê-kun for Yeh-li-k'o-wên. The history of the word is not as yet very clear, but the meaning may be considered certain. Cf. CHAVANNE, *T'oung-pao*, 1904, p. 420, note 7. DAVÉATA, *Notes d'épigraphie mongolo-siniensis*, pp. 41, 80—82. Cf. note 31 below.

9) This name for a Christian monastery is found in the *Yüan Shih* (c. lxxix, fol. 15 r°, etc.) and in the *Yüan tien shang* (c. xxvi, fol. 36 r°). The late P. Hoang, referring to certain divisions of the district of 華亭 Hua-t'ing in Kiangsu which are traditionally exempt from taxes payable in rice, writes: "These five divisions are situated east of the city of Sung-chiang, ten li from the city, and bear the name of the village, 十字莊 Shih-tzu chuang (Figure-of-ten village). In the village there is a temple called 十字廟 Shih-tzu miao (Figure-of-ten, or Cross, temple) where 城隍 Ch'eng-huang is worshipped under the title of 西洋明王 Hai-yang ming wang (Enlightened King of the West)". *Far. Sin.* No. 11, p. 19, note 3. The combination of Shih-tzu and Hai-yang suggests some

among them one, of which the chapel had four pillars forty feet high, each an enormous tree-trunk. One pillar is hanging in the air, more than a foot from the floor.¹⁰⁾ The patriarch Ma-érh Yeh-li-ya (Mar Elijah) worked miracles more than fifteen hundred years ago¹¹⁾. The present Ma Hsieh-li-chi-ssü is his disciple. The worship towards the East is regarded as the principal thing in the religion.¹²⁾ It is not the same as the Indian Religion of Nirvana. The fact is that the sun rises in the East, the four seasons begin in the East, all things are born in the East. The East comes under wood¹³⁾ and presides over birth. Thus, Chaos having been parted, that which causes Heaven and Earth to be without rest, sun and moon to be carried on their way, and the human race to increase and multiply, is the principle of continuous reproduction.

connexion with Christianity, but the use of Shih-tsu alone is not enough to show such connexion. Thus in the *CSCCC* we find 十字碑 shih-tsu pei, "the tablet inscribed with ten words"; and 十字街 shih-tsu chieh, "cross streets", is very common.

10) Cf. p. 671 below.

11) The allusion seems to be to the founder of the religion, though the Chinese rather suggests the meaning: "worked miracles for more than fifteen hundred years". Is it possible that the verbal account given to Wang Hsiang was intended to mean that the Patriarch Mar Elias worked this miracle of the pillar in the Greek year 1500 and odd? There was a Patriarch, Mar Elias III, who died on 12 April, 1501 (A.D. 1190), cf. *Marie Anri et Shih-ai de Patr. Nest. Comm.*, pars II. Samaritan was also a Metropolitan see, but we do not know where to look for a list of the Bishops. Marco Polo says that the miracle took place soon after the death of Chagatai in A.D. 1242.

12) Cf. Nestorian Inscription: 東禮趣生榮之路 (HAYMER, *Far. Sin.*, No. 7, p. xxviii; No. 20, p. 55), and *Scriptorum veterum armen collectio*, tom. X (Eoudjessu), p. 361: "Apostolicus canon est adoratio orientem verum", and WORMWORTH, *The Ministry of Grace*, p. 44: "The 3rd rule [of the *Edessene Canons*] is 'Pray ye towards the East'."

13) The Chinese divide things up, as is well known, into corresponding categories:

	<i>Quarters</i>	<i>Seasons</i>	<i>Elements</i>	<i>Colours</i>	<i>Planets</i>	<i>etc.</i>
1.	East	Spring	Wood	Blue	Jupiter	
2.	West	Autumn	Metal	White	Venus	
3.	Centre	—	Earth	Yellow	Saturn	
4.	North	Winter	Water	Black	Mercury	
5.	South	Summer	Fire	Red	Mars	

Therefore they call it the ever-creative God.¹⁴⁾ The figure-of-ten (the Cross) is an image of the human body. They set it up in their houses, paint it in their Churches, wear it on their heads, hang it on their breasts. They consider it as an indicator of the four quarters, the zenith and nadir.¹⁵⁾ Hsieh-mi-ssü-hsien (Samar-kand) is the name of a place; yah-li-k'o-wên is the name of a religion. His excellency's grandfather K'o-li-chi-ssü (George), his father Mieh-li (Mares?), and his maternal grandfather Ch'ê-pi were court physicians.¹⁶⁾ When the Emperor T'ai Tzu first took their country, the Crown Prince, the Commander-in-chief, fell ill.¹⁷⁾

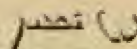
14) The argument is a trifle obscure. The meaning is that the Christians worship towards the East because the East is identified with the principle of reproduction, on which the working of the universe depends. 長生, as a Christian epithet for the Deity, would more naturally mean everlasting or eternal, as in the regular version of the Mongol *Altanbu Tsaigri*, Eternal Heaven; cf. CHAVANES, *T'oung-pao*, 1904, 1908, "Inscriptions et pîches, etc.", *passim*. The ambiguity of the word 生 may help to account for the singular notions here expressed.

15) Cf. Nestorian Inscription: 判十字以定四方 (HAYES, *Far Sin*, No. 7, p. xvii) and 印持十字融四照 (*ibid.*, p. xiviii). It is remarkable that both here and in the Nestorian Inscription the real significance of the emblem of the Cross should be ignored. The unwillingness of the Nestorians to draw attention to the crucifixion of our Lord is noticed by William Rubruquis in several places. He says for instance: "The Nestorians & the Armenians do never make the figure of Christ upon their crosses. Wherefore either they seem not to think well of his passion, or els they are ashamed of it" (Hakluyt's *Principal Navigations*, etc., vol. I, p. 106); and again further on: "The Nestorians had written a whole Chronicle from the Creation of the world to the Passion of Christ, and, passing over the Passion, they had touched on the Ascension and the resurrection of the dead and the coming to judgement" (*Journal of William of Rubruk*, p. 229).

16) His Excellency (公 *kung*) is of course Mar Sargis. George was evidently quite a common name, and will be met with in various forms in the following pages and in the *T'ien Shih*, as well as in the older form 和吉 Ho-chi (Nest. Inscr., *Far Sin*, No. 7, p. lxixix) and 宜和吉思 I-ho-chi-ssü (in the *Praxis of the Holy Trinity*, 敦煌石室遺書, vol. III, 景讚, fol. 2 r^o). The name Mieh-li is found in the *CSCCC*, c. v, fol. 26 v^o, and in the *T'ien Shih*, c. cxii (the seventh son of Guyuk). Ch'ê-pi does not seem to be so well known.


17) T'ai Tzu or Chingis captured Bokhara and Samarkand in the summer of 1220 or Spring of 1221 (*T'ien Shih*, c. i, fol. 8 v^o). Mr A. G. EMME thinks that Yeh-k'o-na-yen

His Excellency's maternal grandfather administered sherbet, and the Ma-li ha-hai-ya and novices prayed, whereupon the prince recovered.¹⁸⁾ He was appointed Imperial She-li-pa-ch'ih¹⁹⁾ and Ta-la-han (Turkhan) of the yeh-li-k'o-wên of his native place [Samarkand]. In the fifth Chih-yüan year (1268) the Emperor Shih Tau [Khubilai Khan] ordered his Excellency to come post haste to present sherbet, and rewarded him very liberally. Sherbet is made of a quantity of fragrant fruits boiled and mixed with honey. Shê-li-pa-ch'ih is the name of an office. That His Excellency had inherited his ancestors' skill in the preparation of this drink is proved by the fact that the Emperor bestowed upon him a gold tablet granting him the exclusive right to the office. In the ninth year (1272) he went

must represent the Mongol  Yake Noyan, "Great Prince" or "Great Commander". This is confirmed by BRITISHMUSEUM's note (*Notices of Med. Geog.*, p. 114, note 66): "Noyan is a Mongol title. It occurs frequently in the *Yuan shih*, where the term is spelt 那顏 *Na-yen*", and by the following in *CSCCC*, 校勘記, c. i, fol. 19 r°:

十駕齋養新錄云蒙古語大爲也可凡官名也可者第一之稱...其云也可者言天子自領之也

"The *Shih chih chai yang lu* is says: In the Mongol language *great* is *yer-tu*, in the names of officers *yer-tu* is the highest title, etc." In his expedition against the West Chingis was accompanied by his sons 朮赤 Juchi, 察合台 Chagutai, 窩闊台 Ogutai, and 拖雷 Tulai, who are all called 皇子 Huang Tzu in the *Fān shih*, l. v. According to M. Pelliot, Yake Noyan "est une appellation mongole nouvelle de Tulai".

18) The syllables 馬里哈昔牙 Ma-li ha-hai-ya come again below, and the similar 馬兒哈昔 Ma-erh ha-hai in the *Fān shih*, c. lxxxix, fol. 15 r°. PALLADIUS took them in each case as a proper name, supposing that they stood somehow or other for Mar Jesus. It seems to be much more probable, however, that M. PELLIOU has found the true solution by identifying ha-hai-ya with the Syriac  *haia*, "saint". M. Clément Huart points out that *haia* was the proper title of a *Bishop*.

19) *Shê-li-pa* is sherbet; *ch'ih* is the termination *ch'ih* by the addition of which the names of offices, employments, and trades are said to be formed in Mongol, so that *shê-li-pa-ch'ih* is like *sherbet-maker*, a purveyor or maker of sherbet. Cf. CHAVANNE, *T'oung-pao*, 1904, p. 389, note 1.

with the P'ing-chang Sai-tien-ch'ih²⁰) to Yün-nan; in the twelfth year (1275) he went to Min and Ché²¹) — in each case for the purpose of making sherbet. In the fourteenth year (1277) he was appointed assistant ta-lu-hua-ch'ih of the central administration of Chên-chiang fu²²), receiving a tiger badge and the title Huai-yüan

20) Sai-tien-ch'ih is the Seyyid Edjell Shams ed-Din Omar. This famous Moslem servant of the Mongol Khans, Chingis, Ogatai, Mangu, and Khubilai, was born in 1210. After holding many distinguished posts, he was sent by Khubilai to Yunnan, where his name is still honoured, in 1274 (not 1272 as the text states) and died there in 1279. M. A. Vasséan has devoted the greater part of the first series of his admirable *Études Sur-Mahométiennes* (Paris, 1911) to the biography of the Seyyid Edjell Omar. P'ing-chang or 平章政事 P'ing-chang-ch'ing-shih was the fourth title among the Metropolitan Ministers and the second in the provincial administrations. Sai-tien-ch'ih had been Metropolitan P'ing-chang-ch'ing-shih from 1261 to 1264. — cf. *Fāw Sā'id*, cc. lxxxv, xci, cvii.

21) That is, roughly speaking, the modern provinces of Fukien and Chekiang, or the circuits (道 /ao) in those days of 福建閩海 Fu-chien-mín-hai and 浙東海右 Ché-tung-hai-yu.

22) The government or central administration of a circuit (路 /o) was called 總管府 Tsung-kuan-fu and was constituted as follows: One 達魯花赤 Ta-lu-hua-ch'ih, one 總管 Tsung-kuan and Superintendent of Agriculture (兼管勸農事), one 同知 T'ung-chih, one 治中 Chih-chung (for first-class circuits only), one 判官 Pan-kuan, etc., cf. *Fāw Sā'id*, c. xci, fol. 8 v°. It will be seen that the staff, which was, however, formally so constituted only in 1283, does not include an assistant ta-lu-hua-ch'ih, and we have not noticed the title in any of the civil territorial administrations in the *Fāw Sā'id*. The addition of an assistant ta-lu-hua-ch'ih to the staff of the circuits (路) is recorded in the *Yüan tien chung*, c. xv, fol. 8 v° under the year 1317 (路府州同知並上縣丞減去設副達魯花赤一員), but still the list of officials on the staff given at the beginning of the same chapter does not include the title. It is common enough in the military offices called 千戶所 ch'ien-hu-so, and appears as the third rank in several non-territorial tsung-kuan-fu (cf., e. g., c. lxxxv, fol. 14 v°, 諸司局人匠總管府). Chên-chiang fu was a circuit of the second class (下路), that is to say the population was less than one hundred thousand families (戶): *Fāw Sā'id*, cc. lxi, fol. 3 v° (where however the population is given as 103313 families), xci, fol. 6 v°. In the *CSCCC*, c. lii, fol. 16—25, the population amounts to 114218 families. See Census table.

ta-chiang-chün²³). Though raised to splendour and prominence, he did not cease to be a faithful adherent of his religion and constantly had plans for the propagation of the faith. One night in a dream he saw the sevenfold gates of heaven thrown open, and two angels addressed him, saying: You must erect seven monasteries; and presented him with some white thing as a token. On awaking he felt inspired, and forthwith resigned office and devoted himself to building monasteries. First at the T'ieh-wéng Gate²⁴) he gave up his house and built the Pa-shih hu-mu-la²⁵) or Ta-hsing-kuo

23) The system of granting ranks and titles to persons employed by the government appears to have been very elaborate. For the present purpose it is enough to say that government officials were classed in nine ranks (品 *p'in*), each rank being divided again into an upper (正 *ch'ing*) and lower (從 *ts'ung*) grade. Each grade of each rank (except the lowest) carried with it a varying number of graduated titles; these again divided into two series — civil (文 *wén*) and military (武 *wu*). An actual appointment (e. g. a darugh-ship) carried with it a certain rank and grade together with one of the appropriate titles. And besides the title there were the robes and the badge — the tiger tablet or tally (虎符 *hu-fu*) of gold with the figure of a couching tiger below and one, two, or three pearls above, and the plain gold badge (金牌 *ch'ing-p'ai* or 金符 *ch'ing-fu*), silver badge (銀符 *yin-fu*), etc., cf. *Marco Polo*, vol. I, pp. 350—353, and *Plates facing p. 352 and p. 355*. The badges were as has been said tallies (符) made in two parts. Very interesting rubbings of such tallies dating from the Sui dynasty have been published and described in the 國學叢刊 *Kuo-hsüeh-t'ung-k'an*, Nos 1 and 3, 1911. These are shaped like an animal and have a sunk cross on the left shoulder of the right-hand half, with a raised cross to fit it on the right shoulder of the left-hand half, and certain characters engraved on the edge (the back of the tiger) which are perfect only when the two halves are fitted together.

Huai-yüan ta-ching-shün was the twelfth military title, or the lowest of the three titles attached to the lower grade of the third rank (從三品), the rank and grade to which the *darugh* and *tsung-kuan* of a second-class circuit (下路) were entitled. The words translated "was appointed" are the technical words used of offices which entitled the holders to one of the first five ranks; the appointments to such offices being made by the Emperor himself. Cf. *How Sui*, cc. lxxxiii, fol. 8 r^e, xxi, fol. 8 r^e—10 r^e. The inaccuracies of the statements in the text will be made clear below.

24) For this and other localities named see pp. 661—671 below.

25) Hu-mu-la is the Syriac ܡܡܠܐ *'amma*, a monastery. 木 *mu* has been accidentally omitted in one place (Ta-shih hu-la) below. 刺 *la* is invariably printed 刺 *re* throughout this paragraph.

Monastery. Next he obtained the Shu-t'u hill at Hsi-ching and built together the Ta-shih hu-[mu-]la or Yün-shan Monastery and the Tu-la-wu-êrh hu-mu-la or Chü-ming-shan Monastery; and below the two monasteries he founded a free cemetery for the yeh-li-k'o-wên. Again at K'ai-sha in the District of Tan-t'u he built the Ta-lai hu-mu-la or Sên-to-an Monastery. On the Huang hill outside the Têng-yün Gate he built the Ti-lien-hai-ya hu-mu-la or Kuo-an Monastery. Near the Ta-hsiung-kuo Monastery he built also the Ma-li Chieh-wa-li-chi-sên hu-mu-la or Kan-ch'üan Monastery. In Hang-chou at the Chien-ch'iao Gate he built the Yang-i hu-mu-la or Ta-p'u-hsing Monastery²⁶). These seven monasteries were the genuine result of his Excellency's zeal. He showed loyalty to his prince and devotion to the empire, not seeking to become conspicuous himself, but only making his monasteries so. The Ch'êng-hsiang Wan-tsé²⁷) presented a memorial stating that his Excellency had, out of the goodness of his heart, built seven monasteries, and obtained in reply a letter under the Imperial seal, promising protection. An immediate grant was made of thirty *ch'ing*²⁸) of government

26) This monastery also is mentioned by Marco Polo (vol. II, p. 192), but no other allusion to it has yet been found in any independent Chinese book. The Chien-ch'iao Gate — officially called 崇新 Ch'ung-hsin — was on the street which leads from the Chien-ch'iao, a well known bridge, to the present 清泰 Ch'ing-t'ai Gate, at the point where the street is crossed by the 城頭巷 Ch'eng-t'ou lane, a lane which marks the situation of the east wall of Hang-chou before it was rebuilt in its present position in 1359. A modern book, 東城記餘 *Tung ch'eng chi yü*, contained in the 武林掌故叢編 pt. xiv, no. 3, quotes this passage with some other parts of the inscription (c. 1, fol. 11), and draws special attention to it and to the history of foreign religions in China in both Preface and Postscript. Cf. Yüshün, *Études Sino-musulmanes, 3de série*, pp. 77—160, *Islamisme à Hang-tcheou*.

27) Ch'êng-hsiang was the highest position in a Provincial government and the second or third in the Metropolitan. One Wan-tsé (perhaps the one referred to here) was Metropolitan Right Ch'êng-hsiang (中書右丞相) from A.D. 1291 until his death about the end of May, 1303. See *Faou Shih*, c. xlii, fol. 7 v^o—10 r^o; c. cxiii, fol. 6.

28) One *ch'ing* is 100 畝 *mu*, or about 17 acres.

arable land in Chiang-nan, and thirty-four *ch'ing* of privately owned arable land in Chê-hsi were purchased in addition for the perpetual maintenance of the seven monasteries²⁹). His Excellency held office in Chên-chiang for five years³⁰). In raising continuously all this masons' and carpenters' labour he did not oppress any members of the common people in the very least degree. Those who took the monastic vows were all yeh-li-k'o-wên³¹). He sent ceremoniously

29) The 江南浙西道 Chiang-nan Chê-hsi tao included a great part of modern Kiangsu and Chekiang, namely the circuits (*ta*) of 杭州 Hang-chou, 湖州 Hu-chou, 嘉興 Chia-hsing, 平江 P'ing-chiang (So-chou), 常州 Ch'ang-chou, 鎮江 Chên-chiang, 建德 Chien-tê (Yen-chou), 慶元 Ch'ing-yüan (Ning-po), 衢州 Ch'ü-chou; and 松江府 Sung-chiang fu. From 1281 to 1289 however Chên-chiang was in the 淮東道 Hui-tung tao. Cf. *Fuhsien Shih*, c. lxii, fol. 1, 2, 3. 常住 *Ch'ang chü*, "ever remaining", is said by MM. CHAVANNE and PELLIGOT to be "à peu près synonyme" with 住持 *chü ch'ü*, "constantly to maintain", see *Les Traités Manichéens retrouvés en Chine*, p. 59 [253], note 1. *Ch'ang chü* is an elliptical phrase the fuller form of which is found, e. g., in the 元典章 *Yüan tien chang*, c. xixiii, fol. 6, 7, as 常住的錢糧 or, better for our present purpose, 亡宋時分有來的常住田地. *Chü ch'ü*, both in the Manichean Treatises and where it occurs a little further on in this inscription, seems to be a simple verbal phrase, "constantly to maintain" or merely "to maintain", but the more common use is also elliptical, when it stands for "a religious superior" or "Abbot". For this sense of *Chü ch'ü* see DE GRUWER, *Le Code de Manichéisme en Chine*, p. 132, and CHAVANNE, *T'oung-pao*, 1904, p. 370, note 8. Here again the *Yüan tien chang*, *ibid.*, gives the full form 住持的和尙頭目 "The head monk who maintains" or 住持的長老每 "The elders who maintain". This latter sense of *chü ch'ü* is found also in Taoist and Moslem literature.

30) The dates, as far as they are known, of Mar Sargis' appointment and resignation will be found below. Until A.D. 1291 it seems to have been possible to hold office for from thirty to sixty months, after that date thirty months was fixed as the limit for some offices and three years for others. Cf. *Fuhsien Shih*, c. lxxiii, fol. 4 r^o. K'uo-li-chi-mu, however, and Tai-p'ing (p. 650 below) each held office for about four years.

31) This remark raises the interesting question of the existence of native Christians. Yeh-li-k'o-wên here cannot very well mean Christians in the purely religious sense, for such an observation would be too self-evident. What seems to be meant is that all the Christian monks were of some foreign (possibly Syrian or Persian) nationality. Cf. note 8

to invite the Ma-li ha-hsi-ya Ma-êrh shih-lí ho-pi-ssü-hu-pa of the land of Buddha³²) that he might expound the secrets of the religion and formally deposit the Scriptures; and then the chapels of the seven monasteries were quite complete. Moreover he commanded his sons and grandsons to maintain them throughout the stream of ages to come. As for sherbet-making, it was an hereditary business to be carefully fostered and not to be allowed to decay. These precepts and instructions were designed to secure a perpetual inheritance and succession, and are a further illustration of his Excellency's thoughtfulness. So I have brought together what I heard to form a record.

"The Kau-ch'üan Monastery is near the Ta-hsing-kuo Monastery.

"The Ta-kuang-ming Monastery is south of the Tan-yang kuan, built by An-ma-chi-ssü in the first Yüan-ch'eng year (A.D. 1295)."³³)

II. "TAN-T'U DISTRICT.

"The Lung-yu Monastery is on the Chün Hill. The old name was Tsö-hsin. It is not known at what time it was founded:

above, and 校勘記, c. 1, fol. 19 v^o: 所謂也里可溫者西洋人也 "What are called Yeh-li-k'o-wên are Western men" with the farther note: 則薛迷思賢乃西洋之地而也里可溫即天主教矣 "So Hsieh-mi-sü-hsien is a place in the West and Yeh-li-k'o-wên is the Christian religion".

32) That is to say the West. For Ma-li ha-hsi-ya cf. p. 634, note 18, above. In the following syllables, "episcopus" is unmistakable, and it certainly seems natural that a Bishop should have conducted the formal consecration of the chapels which formed part of the new monasteries. M. Pelliot suggests that the syllables should be differently divided, making "Mar Shih-li-ho, Bishop".

33) CSCOC, c. ix, fol. 8 v^o—9 v^o. The heading of the chapter is 會寺 Sêng ssü, "(Buddhist) Monasteries", and of the section, 本府 Pên fu, that is Ch'ên-chiang City. The last-named monastery is not one of the seven, and there is nothing but the founder's name to suggest that it was Christian, while the name Kuang-ming is at least as suggestive of the Manichæans as of the Christians. 明 Ming and 光明 Kuang-ming occur very often in the newly found Manichæan treatises.

Some say that it was founded in Chien-wu (A.D. 317) of the Chin dynasty: Wu Ti (A.D. 502—549) of the Liang dynasty once visited the monastery and instituted the Shui-lu Congress³⁴): The *Kao-*

34) We gather more precise details about this famous Congress from the 金山志略 *Chin-shan chih-lueh*, quoted in *T'w San*, VII, 103, *ch'i ch'ü*, fol. 1: "In the second year of T'ien-chien in the Liang dynasty (503 A.D.), the Emperor Wu dreamed that a divine monk addressed him thus: All sentient beings [*fo*, the six paths (of transmigration) and the four (modes of) birth] are suffering incalculable misery. Why not institute a great Fast by land and water in order to rescue them? — When the Emperor awoke, he questioned various Buddhist priests on the subject, but none could tell him anything. Only the monk Chih-kung exhorted the Emperor to make a thorough examination of *sūtras* and *s'āstras*, where he would surely find the explanation he sought. So the Emperor forthwith sent out messengers to fetch a copy of the whole Buddhist Canon, which was deposited in the Ch'ung-yün Palace. Day after day he spent in reading the scrolls and preparing the ceremonial, until in the third year his task was completed. He then built a place for religious exercises in the Chin-shan Monastery, and ordered the priests to institute the Congress after the model laid before them. The Master of the Vinaya *Sāng-ya* proclaimed it in writing, and a great response was evoked from the gods."

梁天監二年武帝夢神僧告曰六道四生受苦無量何不作水陸大齋以拔濟之帝覺問諸沙門無知者惟誌公勸帝廣尋經論必有因緣帝即遣迎大藏經置重雲殿積日披覽創制儀文三年而成乃建道場于金山寺命諸沙門依式修設僧佑律師宣文大彰感應

After the Liang dynasty, the Shui-lu Congress seems to have remained in abeyance for 800 years. At any rate, we hear nothing more of it until the Yüan dynasty, when it had evidently been long in desuetude. Then it was twice revived in consecutive years (1314 and 1315). A commemorative inscription, composed by Ying-shên and written out by Chao Mêng-fa, gives us the following particulars: "Since the accession of His Majesty (Jên Tsung) his living subjects within the four seas have enjoyed peace, and his thoughts are turned to those souls that have gone down into the nether world, whom there is no means of succouring. On the *i-hai* day of the second moon of the first year of Yen-yü (7 March, 1314), an Imperial Edict was issued conformably to the wishes of the Empress, stating that Chin-shan was the spot where the Shui-lu Congress was first instituted, and that a munificent grant would be made from the Imperial exchequer for the purpose of organising a great fasting Congress there, to last for seven days and seven nights. . . . The following year, on the *piei-hü* day of the eighth moon (9 September, 1315), another Edict was issued to the effect that a great Shui-lu Congress should again be held on the same lines as the year before." 皇帝續業以來海內生民安安惟念

sêng-chuan of the Liang dynasty says that Wu Ti visited the Tsê-hsin monastery and instituted the Shui-lu Congress in the fourth T'ien-chien year (A.D. 505). . . . In the reign of Chên Tsung (A.D. 998—1022) of the Sung dynasty the monastery was granted the name of Lung-yu Monastery of Contemplation. In the reigning dynasty in the year *chi-yu* of Chih-ta (A.D. 1300) the monk Ying-shên took charge of it by command of the Emperor, and was granted together the two convents which Ma Hsieh-li-chi-san had taken possession of east and west of Yin Hill. And a special Imperial messenger was sent to restore the great Shui-lu Congress according to the custom of the Liang dynasty." ²⁵)

墮墜下泉者罔克攸濟延祐改元二月乙亥嘗
欽旨順母后以金山爲水陸建始地特降侈儀
修大齋會七晝夜... 明年八月丙戌乃再欽旨
如元年例仍建水陸大會 (CSCCC, c. ix, fol. 12 v^o).

"In the third year of Chih-chih (1323) a great Shai-lu Congress was again held, and the monk Ying-shên again composed an inscription to be engraved on stone" 至治三年復建水陸大會僧應深復撰文刻石 (CSCCC, l. c.). We learn from the inscription that this Congress was inaugurated in the ancient temple of Chin-shan (金山古壇, doubtless the 道場 mentioned above), followed the same ceremonial as before, and lasted seven days, from the 10th to the 17th of August.

85) CSCCC, c. ix, fol. 9 v^o, 12 v^o. The latter part of this passage is extracted from an inscription by the 翰林侍講虞集 Hsiao-lin-shih-chiang, Yü Chi, whose biography is in the *Tsuen Shih*, c. xliixi, fol. 2 v^o—6. M. Pelliot has kindly looked in the collected works of Yü Chi but without finding any mention of Mar Sergio or of the yeh-li-k'o-wen; this inscription having been omitted apparently by the editor. It will be noticed that a different date for the restoration of the Christian convents to the Abbot of the Lung-yu Monastery is given below. Another passage (fol. 19 v^o) in the long account of this monastery tells us that in A.D. 1012 the name of the island was changed to Lung-yu (Dragon's Swim), owing to the Emperor having dreamt that he was swimming there. In 1021 this name was passed on to the monastery, and the island reverted to its old name of Chin. From the *T'u ssu chi ch'ang*, VII, 101, *Shi P'ao* 5, we learn that "another name for the island is 頭陀巖 T'ou-t'o CHIE. The 九域志 *Chiu yü shih* says that 裴頭陀 P'ei T'ou-t'o of the Tang dynasty took up his abode here, and built a monastery at the water's edge, where he found several pounds (鎰) of gold.

- III. "The Ssu-tu-an Monastery is at K'ai-sha, built by Ma Hsieh-li-chi-ssu assistant ta-lu-hua-ch'ih of this circuit.

"The Ta-fu-hsing Monastery is on the Fu-t'ien Hill outside the Tung-wu Gate: this is also a yeh-li-k'o-wên monastery." ³⁵⁾

- IV. "The Po-jo (Prajña) Convent is on top of the Shu-t'u Hill. In the sixteenth Chih-yüan year (A.D. 1279) Ma Hsieh-li-chi-ssu assistant ta-lu-hua-ch'ih of this circuit built two monasteries on land belonging to Chin-shan; one called Yün-shan Monastery and one called Chü-ming-shan Monastery. In the fourth Chih-ta year (A.D. 1311) they were changed into a convent dependent on Chin-shan and given the present name. Chao Mêng-fu ³⁷⁾ vice-president of the Chi-hsien yüan, received a special command to compose an inscription for a stone tablet: The substance of it was as follows: In the year of the Emperor's accession, the fifth month and the ch'ia-shên day (31 May, 1311), an order under the Imperial seal

This came to the ears of the Emperor, Ming Huang (A.D. 712—756), who thereupon gave the island the name of Chin Shan (Golden Island)". Another writer dismisses this attempt to explain the name as a mere fable. He says it is derived from the Buddhavataṣṭaka-sūtra (華嚴經), where it is related that there are seven golden islands floating in the Ocean of Fragrant Waters surrounding Mount Sumeru. The island off Chên-chiang got its name from a supposed resemblance to these. He adds that the Sanskrit word Sumeru (須彌) means "wonderful height" (妙高), and that the name 妙高峯 Miao-kao feng is actually applied to Chin Shan. See *P'u shu*, *ibid.*, *Chi Fao* 7; compare 金山志略 *Chin-shan chih lüeh*. The monastery is also known as the 金山寺 *Chin-shan Monastery* and, we believe, still exists.

³⁵⁾ CSCCC, c. 13, fol. 18 r^o. The Ta-fu-hsing is not one of the seven monasteries, and the mention of it here is the only scrap of certain evidence of Christian activity at Chên-chiang beyond Mr Sargis' original effort. Four of the seven (including the Ta-fu-hsing) monasteries in or near the city are recorded as to all appearance still existing in the year 1833, and of the remaining three only the two on the Shu-t'u Hill are known to have reverted to the Buddhists before that date.

³⁷⁾ Chao Mêng-fu (also known as 子昂 *Tzu-ang*) whose biography is in the *Füan Shih*, c. 4311, fol. 2 r^o—4 r^o, was a member of the Song Imperial family, and one of the most famous painters and calligraphists of his day. Several of his paintings may now be seen in European collections. The Chi-hsien yüan was a board for the control of Taoist priests, astrologers, fortune-tellers, etc.; cf. *Füan Shih*, c. 13321, fol. 3 r^o.

was made to send P'o-lü, judge on the Hsüan-chêng yüan, and the Minister Ta-shih T'ieh-mu-êrh, councillor in the Tu Kung-tê-shih-sü³⁸), to ride post haste to inform the provincial government of Chiang-chê téng ch'ü and say: The yeh-li-k'o-wên have taken it upon themselves to build Monasteries of the Cross on land belonging to Chin-shan; let the crosses be torn down and destroyed. The artist Liu Kao, who formerly did the painting and modelling for the Pai-t'a Monastery, is ordered to go and put in their stead on the walls of the chapels and rooms of the monasteries paintings and figures of Buddhas and Bodhisattvas, devas and dragons. The officials are to prepare and supply whatever he needs to use; and as the monasteries will revert to Chin-shan. On the kêng-ch'ên day (27 May)³⁹) another charter with the Imperial seal was sent down for Chin-shan, in which the yeh-li-k'o-wên and their descendants in perpetuity were prohibited, under pain of severe penalties, from raising a dispute on the matter. In the eleventh month and the kêng-hü

38) The Hsüan-chêng yüan, with which the Kung-tê-shih-sü was incorporated in 1329, had the management of the Buddhist monks. We have failed to trace the exact title 都功德使司丞 Tu Kung-tê-shih-sü ch'êng, in the *Tsün tien ch'ang*, c. vii, we find 同知都功德使司 T'ung-chih Tu Kung-tê-shih-sü (正三品) on fol. 39 r°. 功德司副使 Kung-tê-sü Fu-shih (正四品) on fol. 8 r°, and 都功德使司經歷 Tu Kung-tê-shih-sü ching-li (從六品) on fol. 40 r°. The four Judges (Tsün-shih kuan), appointed in 1288 (or 1289) and suppressed in 1300, seem afterwards to have existed together with their subordinates as a more or less independent department of the Hsüan-chêng yüan. The title Hsüan-chêng yüan Tsün-shih kuan occurs in *Tsün tien ch'ang*, c. vii, fol. 7 r°, and that of one of the subordinates (知事) on fol. 31 r°. Cf. *Tsün Shih*, c. lxxxii, fol. 4 r°.

39) This date, being earlier than the one above, is surprising. If we might suppose the accidental omission of "of the 7th (or 9th) month", the date would be 26 July or 24 September. Liu Kao was apparently not a painter of much renown, as his name is not included in the 佩文齋書畫譜 *Pei wên ch'ai shu hua p'ien* nor in the 宋元以來畫人姓氏錄 *Sung Tsün i lai hua jen shing shih lu*. The Pai-t'a Monastery may have been the one mentioned in 畿輔通志 *Chi fu t'ung chih*, c. ii, fol. 23 v°: "Situated eight li west of the prefectural city [of 永平 Yang-p'ing in Chihli], founded in the Tsün dynasty".

day (23 December) the Minister Hai-yin-tu, president of the Tu Kung-tê-ssü, received a special communication from the Emperor: As for the Monasteries of the Cross, built on the Chin-shan land by the heretic yeh-li-k'o-wên trusting in their strength; now that their images have been torn down and destroyed, let new images of Buddha be made, and the walls of the monasteries be painted afresh, that they may be regarded for ever as a convent dependent on Chin-shan. And I, His Majesty's servant Mêng-fu, was ordered to write a composition and to set up a stone on Chin-shan to publish this matter for ever. Thereupon I, His Majesty's servant Mêng-fu, devoid of eloquence, having respectfully saluted and prostrated myself, composed the following inscription: With regard to Chin-shan, I respectfully record that a monastery was first built there in Chien-wu (A.D. 317—318) of the Chin dynasty and named Tsê-hsin. In T'ien-chien (A.D. 502—520) of the Liang dynasty the Shui-lu plans were completed and a fast instituted at the monastery. In Ta-chung-hsiang-fu (A.D. 1008—1017) of the Sung dynasty the name was changed to Lung-yu, and a grant was made of arable and hill land at Hsi-ching in Chiang-nan. In the reigning dynasty, in the sixteenth Chih-yüan year (A.D. 1279) the yeh-li-k'o-wên Ma Hai-chi-li-chi-ssü, who held the office of ta-lu-hua-ch'ih in the central administration of the circuit of Chên-chiang, built two Monasteries of the Cross on the hill top at Hsi-ching, and the arable fields belonging to Chin-shan were seized by the yeh-li-k'o-wên. Now after twenty-seven years⁴⁰) Chin-shan has recovered the two monasteries

40) There is some inconsistency with regard to the dates. Chao Mêng-fu himself says that the monasteries were built in 1279 and restored to Chin-shan in 1311, that is to say thirty-two, rather than twenty-seven, years later. The topographer states that the Tsê-hsin-kue Monastery was built in 1281. Liang Hsiang's words might be taken to mean that no building was done until 1282, if Ma Sargie held office for five years from 1277 and resigned before he began to build; but by ordinary Chinese reckoning this statement also would point to 1281. We have two statements (which however probably represent one authority) that these disputed monasteries were built in 1279 — statements on the whole

to be a subordinate convent; thus glory radiates from three centres, and the single peak standing in mid-stream is more firmly established than ever. And so I have made an ode, etc.:

"P'an Ang-hsiao ⁴¹⁾, vice-president of the Han-lin yüan, was also ordered to compose an inscription for a stone tablet: The substance is: Great is Buddha! there are not two Gates of the Law, just as in void space there is no such thing as going and coming. Innumerable spheres of activity reveal themselves in the fulfilment of fate, yet the Gate of the Law is one and one only. How could there possibly be two? Whatever beyond this is regarded as the Law is not what we Buddhists call the Law. The ancient and famous temple of Chin-shan stands up boldly in the midst of the stream of the great River! the most picturesque sight in the world! The hills of Chiang-nan coming from the south extend right up to the River. Steep and high they stand opposite, facing the peak in the midst of the stream, and the currents in their veins commingle. With beetling heights, they bend their heads and watch the island as though they were standing sentinel over it. Now in the sixteenth Chih-yüan year (A.D. 1279) the yeh-li-k'o-wen Ma Hsieh-li-chi-ssü, rendered exceedingly arrogant by his successive terms of office as governor of this region, selected the most beautiful site on the precipitous cliff and put up a building on the summit as a temple for his foreign religion, called Yin-shan Monastery ⁴²⁾, and laid out

supported by the fact that Mar Sergis resigned his post as *darughā* in August, 1275 (see p. 648 below), while we have at present no independent evidence to tell us how long he held the post of *assistant darughā*. The fact that Chao Mung-fa calls Mar Sergis *darughā* is a further slight indication that it was his resignation of that higher office which preceded the building. We have also two dates — 1309 and 1311 — for the restoration of the monasteries to the Buddhists.

41) P'an Ang-hsiao is known as the author of the 金石例 *Chia shih li*, cf. WILKIN, *Notes on Chinese Literature*, 1901, p. 246, where "Maon" is a mistake.

42) This statement is not quite accurate. As we have seen (p. 637), he built *two* monasteries here, the Yün-shan and the Chü-ming-shan.

the waste land as a burying place for those of his sect. Alas! the sects of the West are ninety-six in number; but our Buddhism alone is the true religion. In view of the truth of our religion, can a false or foreign faith be tolerated? The present Emperor when he came to the throne ordered P'o-lü and other members of the Hsüan-chêng yüan to cast out the old images from the monasteries and to copy the Indian figures ⁴³⁾ of the temples at the metropolis with vermilion and gold, purple and blue, all new and bright; and to hand over the buildings to the Chin-shan superiors, the elders Fo-hai and Ying-shêng, ⁴⁴⁾ granting the name of Po-jo Convent of Meditation dependent on the Chin-shan Monastery. May the whole district raise its voice to celebrate with one accord this return to the True Faith! Your servant, Li Pang-üing, president of the Chi-hsüan yüan, presented a petition that an inscription should be engraved on hard serpentine to make this known for ever. Your servant, Tau-ya-ta-sü, Minister of the Han-lin yüan charged with the receipt of edicts, received the rescript. Your servant Ang-hsiao was the writer; and so forth" ⁴⁵⁾.

43) There was a special department of the Board of Works (工部 Kung pu) to supervise the painting and carving of Buddhist images. It was founded in 1275 and called The Biography of Li Pang-üing will be found in *Yüan Shih*, ch. cciv *ad initiale*. He was a eunuch who stood in high favour with Khubilai and his three successors. 梵像局 Fan-hsiang chü or *Indian image office*, and was raised to be 梵像提舉司 Fan-hsiang t'i-chü-sü in 1316. Cf. *Yüan Shih*, c. lxxv, fol. 13 v°. The Mongol name P'o-lü is transliterated 潑間 above (p. 647).

44) In the account of the Lang-yü Monastery (p. 641 above) this name is written 應深 Ying-shên.

45) *CSCCO*, n. ix, fol. 24 r°—25 r°, chapter 僧寺院; section 丹徒縣. Tau-ya-ta-sü is described as 翰林學士承旨 Han-lin Hsüeh-shih Ch'êng-chih. From the *Yüan Shih*, c. lxxvii, fol. 2 r°, we learn that 王鶚 Wang O was appointed Han-lin Hsüeh-shih about the year 1260, before the regular institution of the Han-lin Board or College which took place in 1264. From 1269 onwards the highest officials on the staff had the title of 承旨 Ch'êng-chih, "Receivers of edicts", the next rank were called 學士 Hsüeh-shih, the third 侍讀學士 Shih-tu Hsüeh-shih, the fourth

V. "Shê-li-pieh (sbarbet): forty jars. Ma Hsieh-li-chi-ssü, late assistant ta-lu-hua-ch'ih of this circuit, made it by boiling a preparation of grapes, quinces, oranges, and such like things, and was granted boats and horses to send it up as tribute" 46).

VI. "Chên-chiang-fu lu tsung-kuan-fu: In the twelfth month of the thirteenth Chih-yüan year (January, 1277) Chiang-yin Chên-chiang an-fu-shih-ssü was changed to Chên-chiang-fu lu tsung-kuan[-fu].

"Ta-lu-hua-ch'ih (Darugha):

"Hsi-la-han: a Mongol...: he arrived on the first day of the second month of the thirteenth Chih-yüan year (17 February, 1276); on the next day he left his appointment and went north:

Yen Chung-chieh: a native of Tung-p'ing...: he arrived in the third month of the fourteenth year (April, 1277); on the seventeenth day of the fifth month of the fifteenth year (8 June, 1278) he was transferred to the charge of the Chê-tung tao hsüan-wei-shih-ssü:

Ma Hsieh-li-chi-ssü: a yeh-li-k'o-wên mau, tiger tablet, huai-yüan ta-chiang-chün; he arrived on the twenty-fifth day of the first month of the fifteenth Chih-yüan year (18 February, 1278); on the first day of the eighth month (20 August) he was granted a gold tablet and transferred to the appointment of assistant ta-lu-hua-ch'ih with the title ming-wei Chiang-chün:

侍講學士 Shih-chiang Hsieh-shih, and so on. The Ch'ung-chih varied from three to nine in number at different periods and were finally fixed at six. On the other hand, Tan-ya-ta-mu's exact title (Hsian-lin Hsüeh-shih Ch'ung-chih) is given under the lower grade of the second rank (從二品, the Presidents' rank from 1211 to 1308) in the *Tsao tien chang*, v. vii, fol. 3 v^o, and is the highest title of any Hsian-lin official there recorded, though the *Yüan Shih*, I. c., assigns the Ch'ung-chih (after 1312) to the lower grade of the first rank (從一品) and the Hsüeh-shih to the upper second rank (正二品). We shall probably be right in regarding Tan-ya-ta-mu as having been one of the Presidents of the Hsian-lin yüan.

46) CSCCU, v. xi, fol. 31 r^o, chapter 土貢 Local articles of tribute; section 今貢 Present articles of tribute. Elsewhere, as will be noticed, Sherbet is generally written 舍利八 Shê-li-pa.

Chang Chao: styled Yen-ming, a native of Chang-tê, t'ai-chung tai-fu; he arrived on the ninth day of the eleventh month of the fifteenth Chih-yüan year (24 November, 1278); on the third day of the fifth month of the sixteenth year (13 June, 1279) he resigned office on account of disease of the foot".⁴⁷⁾

47) CSCCC, c. xv, fol. 5 v°, 6 r°. As is customary in Chinese topographies, several chapters of the *Chü-chiang chü* are devoted to the names of those who had held office in the locality. These are divided chronologically by dynasties, and subdivided according to the various local administrations, and again by the different offices in each administration. In this case, under the general heading 元 Yüan dynasty, the heading *Tsung-kuo-fu* is followed by the names of those who administered it, classified according to their offices — *ta-fu-kua-ch'ü*, *tsung-kuan*, etc. For the constitution of a Tsung-kuo-fu see ante 22 (p. 635) above; and for the Chü-tung-tao *hüan-wei-shih-an* see the *Fuán Sâi*, c. xxi, fol. 2 v°. The capital of Chü-tung-tao was 慶元 Ch'ing-yüan or Ning-po. A *Hüan-wei-shih-an* seems to have been the first of the *fan*, or larger circuit, administrations, and was composed of three 宣慰使 *hüan-wei-shih*, two 同知 *t'ung-chih*, etc. Ming-wei-chiang-chün was the fifteenth of the military titles, and the lowest of the three titles attached to the upper grade of the fourth rank (正四品). Tai-chung tai-fu was the eighteenth civil title, the highest of the three attached to the lower grade of the third rank (從三品). It should be noticed that no military titles are assigned to the first rank.

The dates in this whole passage appear to be open to question. Hsi-lü-han is made to arrive and leave eleven months before his office had been constituted, where we may suspect that "2" is the number of the month is a slip for "13"; and Yen Chung-chieh is transferred to Chü-tung nearly four months after he had been succeeded by Mar Sargis. It is interesting to compare this account of Mar Sargis with Liang Hsiang's statement (p. 635, and note 40 above). Liang Hsiang says that he was appointed in 1277, this account agrees with Marco Polo in saying 1278, giving the date of his arrival. Officials were allowed thirty, forty, or fifty days in which to reach their posts after their appointment, according to the distance, and the rates of travel which were considered reasonable were 70 *li* a day on horseback, 40 *li* by carriage, 30 *li* a day by boat up stream or 120 *li* down stream (cf. *Fuán Sâi*, c. lxxviii, fol. 4 v°; *Fuán tien ch'ang*, c. x, fol. 10 r°); and so it is possible that Mar Sargis received his appointment in the fourteenth year and did not reach his post until twenty-five days into the fifteenth year. The difficulty mentioned above, that his term of office overlaps that of his predecessor, seems to be more serious.

Liang Hsiang gives Mar Sargis the higher titles (*ho-fu*, *hual-yuan ta-chiang-chün*) but the lower office (assistant darugh), and says that he resigned (休官), and then that he governed Chên-chiang (任鎮江) for five years — the maximum term of office. It seems to be possible that he did resign soon after his appointment as darugh, and was then allowed to have a nominal appointment as assistant darugh with lower rank and titles. It has been shown above that an assistant darugh was not one of the regular staff of a territorial *tsung-kuo-fu*, and there is no list of assistant darugh in these chapters

VII. "Tsung-kuan and Fu-yin:

"..... An Chên-hêng: a yeh-li-k'o-wên man, chin-i tai-fu; he arrived on the second day of the seventh month of the twentieth Chih-yüan year (27 July, 1283), and was relieved on the twenty-eighth day of the second month of the twenty-third year (24 March, 1286):" ⁴⁵).

of the *Chên-chiang chih*. According to the present account more than three months passed between Mar Sargis' resignation and his successor's arrival, and the interval may have been even greater than that.

In a note to PALLADIUS's translation (*Chinese Recorder*, 1875, p. 110) Wylie writes: "In an edition of the same work published in the middle of last century there is a list of the governors of the Chin-kuang foo Circuit. The entry stands thus, 馬 薛里吉思虎符懷遠大將軍至元十五年任". — that is to say "Ma Hsüeh-li-chi-sü, ku-fu, hual-yüan ta-chiang-chün, he held office in the fifteenth Chih-yüan year (1278)". Wylie refers no doubt to an eighteenth century edition of the *鎮江府志* *Chên-chiang fu chih*, — probably the *乾隆鎮江府志* referred to in the *校勘記*.

Chang Chao has a biography in the *Jüan Shih* (c. clix, fol. 6 r^o) from which we learn that he was born in 1225 at 濟南 Chi-nan. From 1260 onwards he held various posts in Shantung, Shensi, and other places, and, after having assisted at the capture of Yang-chou and Chên-chiang, was made darugh of the circuit of Yang-chou with the title of t'ai-chung tai-fu in 1278. He also held a post in the provincial government and carried a gold tiger tablet. He was transferred to the Chên-chiang circuit in the sixteenth year (1279) and retired from office on account of illness. He was a great book collector and gave ten thousand volumes of his library of eighty thousand volumes to the college at Chi-nan. He died in 1288. The *揚州府志* *Yang-chou fu chih* (ed. 1810), c. xxvi, fol. 45 r^o, gives his name under the heading Yang-chou in tsung-kuan-fu, describing him as a Chi-nan man, appointed in the thirteenth year (1278) and moved to Chên-chiang in the sixteenth year (1279). Thus we have two authorities for Chi-nan as Chang's birthplace instead of Chang-tu, and for 1279 as the date of his appointment to Chên-chiang instead of 1278. On the other hand it must be remembered that the *Chên-chiang chih* is more nearly contemporary than either of the other two authorities. In any case it seems to be clear that Mar Sargis did not hold his original appointment for many months, and for the rest we have no evidence to support either Marco Polo's three years or Liang Hsiang's five.

45) CSCC, c. xv, fol. 6 r^o. Chien-i tai-fu was the seventeenth civil title, the last of them belonging to the upper grade of the third rank (正三品). The two offices, Tsung-kuan and Fu-yin, the second in the governments of the circuit (fu) and of the prefecture (府 fu) respectively, were apparently held by one man.

VIII. "Chên-chiang lu tsung-kuan-fu: In the first month of the twenty-sixth Chih-yüan year (February, 1289) the Chên-chiang-fu lu tsung-kuan-fu was changed to Chên-chiang lu tsung-kuan-fu:

"Ta-lu-hua-ch'ih and Minister for the Promotion of Agriculture in the Interior:

"..... K'uo-li-chi-sst: a yeh-li-k'o-wên man, shao-chung tai-fu; he arrived on the sixth day of the eighth month of the first Chih-ta year (22 August, 1308) and was relieved on the ninth day of the twelfth month of the first Huang-ch'ing year (6 January, 1313).

Tai-p'ing: a yeh-li-k'o-wên man, chia-i tai-fu; he arrived on the ninth day of the twelfth month of the first Huang-ch'ing year (6 January, 1313) and was relieved on the second day of the eleventh month of the third Yen-yu year (17 November, 1316). The gentry and people set up a monument to express their regret at his departure, with an inscription composed by Ch'ing-yang I a native of the place. The monument is by the side of the post road in front of the Tan-yang Hostelry:"⁴⁹).

49) CSCCC, c. xv, fol. 6 v^a—7 v^b. This list of Saragha contains fifteen names, of which numbers 1, 2, 3, 6, 7, 11, 12, 14, 15, are Ulgurs (畏吾兒 Wei-wu-erh); 4, 5, 10, Moslems (回回 Hui-hui); 8, 9, Christians (yeh-li-k'o-wên); and 13 a Kankali (康里 K'ang-li); none are Chinese. Shao-chung tai-fu, later changed to 亞

中大夫 Ya-chung tai-fu, was the twentieth civil title, the lowest attached to the lower grade of the third rank (從三品); cf. note 23 and, for chia-i tai-fu, note 48 just above, where it will be seen that the title went with the upper grade of the third rank although Chên-chiang as a second-class circuit (下路) only entitled its governors to the lower grade of this rank (從三品).

In the CSCCC, c. ssi (公廨), under the section 治所 or Government Offices, fol. 12, we see that K'uo-li-chi-sst and others repaired the building called Ch'ing-hsian t'ung in January 1312. The building was in the Tsung-kuan-fu chih, or Office of the Tsung-kuan-fu (cf. note 22 above), on the Pei-lu Hill, the cliff at the north-east corner of the city which is still so called. The text reads: 總督府治在北園

山.....中爲承宣堂。至大辛亥、達魯花赤潤里吉思暨僚佐重建。有記。至大辛亥十二月、達魯花赤潤里吉思、同知孛蘭奚、判官久住

IX. "Tsai-êrh (Subordinate officials):

"Tan-t'u District:

"Yüan (Dynasty): Ta-lu-hua-ch'ih:

" Ma Ao-la-han: a yeh-li-k'o-wên man, chung-i chiao-wei; he arrived in the sixth month of the second Yüan-chêng year (July, 1296).

Wo-lo-ssü: a yeh-li-k'o-wên man, ch'êng-wu-lang; he arrived in the eighth month of the second T'ien-li year (September, 1329)"²⁰.

X. "An Ma-li-hu-ssü: a yeh-li-k'o-wên man, living at Chên-chiang, chung-hsien tai-fu, t'ung-chih of the Hsüan-wei-shih-ssü of Kuang-tung circuit, and assistant tu-yüan-shuai:

推官姚英、經歷趙思恭、知事段瑞、提控案牘
李元章、重建：

We have not identified this K'uo-li-chi-wên or T'ai-p'ing with men who are mentioned in the *Yüan Shih*, where the names are not uncommon. The inscription about T'ai-p'ing, which we reproduce but have not thought it necessary to translate, speaks of the satisfaction which he had given by correcting an unjust system of taxation which had been in force.

50) *OSCCO*, c. xvi, fol. 1 r^o, 3 r^o, 4 v^o, 5 r^o. The titles (cf. note 23) are respectively the twenty-eighth military title, belonging to the upper grade of the seventh rank (正七品), and the thirty-fourth civil title, belonging to the lower grade of the sixth rank (從六品).

The first name (the exact form of which, without the Ma, has been found by M. PELLIOU in the *Tsao tien chang*, c. xxxvi, fol. 36 v^o) may be Mar Abraham. We had Abraham elsewhere in the form 羅舍 Lo-han (HARVEY, *Variétés Sinologiques*, No. 7, p. 1.),

蒲羅呼 P'u-lo-hing (cf. 諸蕃志, 1914, c. 1, fol. 31 r^o, *Chao Ju-fan*, p. 144),

and 阿無羅漢 A-wu-lo-han or 羅漢 Lo-han (*Inscriptions Javes*, pp. 36, 58, 63). Wo-lo-ssü was one of the ways in which Russ (Russian) was written; but it also appears as a proper name, e. g. in the *Yüan Shih*, c. xxxiii, fol. 1 v^o, and c. xxxix. In the fourteenth century there seems to have been a considerable colony of Russian prisoners near Ta-tu (Peking); see BARSCHNEIDER, *Mém. Ros.* II, 80; *JNCBRAS*, 1875 (N. S. no. X), pp. 249—255, and *Yüan Shih*, on xxxiv—xxxvi. The Russians were called 阿羅思 A-lo-ssü, 幹羅思 Wo-lo-ssü, or 兀羅思 Wu-lo-ssü, Russ with no vowel prefixed being apparently an impossible sound in Mongol.

In this same list of darughas we find 塔海: 阿剌溫人 "Ta-hai: an A-lo-wên man." PALLADIUS (*JNCBRAS*, 1875, p. 24) suggests that A-lo-wên may be Marco Polo's *Argon* (cf. notes 6 and 8 above).

Yeh-li-ya: son of An Ma-li-hu-ssü, chung-i chiao-wei in consideration of his father's merit, and ta-lu-hua-ch'ih of Ta-yü district in the circuit of Nan-an; now chao-hsin chiao-wei, t'ung-chih of the sub-prefecture of Liu-yang in the circuit of T'an-chou:.....

T'a-hai: a yeh-li-k'o-wên man who lived at Ching-k'ou, chêng-i tai-fu, t'ung-chih of the Hsüan-wei-shih-ssü of Kuang-tung circuit and assistant tu-yüan-shuai; deceased" 51).

51) CSCCC, c. xix, fol. 11 r°. Chung-hsien tai-fu was the twenty-second civil title, upper grade of the fourth rank (正四品); chao-hsin chiao-wei the twenty-fourth military title, upper grade of the sixth rank (正六品); chêng-i tai-fu the fifteenth civil title, upper grade of the third rank (正三品), cf. notes 23 and 49. Ma-li-hu-ssü alone would be a fair transcription of Marcus. The prefix An has occurred twice before, on pp. 639 and 649. Yeh-li-ya has come above (p. 632) and is common in the *Tsao Sshü* (cc. xiv, xvii, xxiv, etc.). T'a-hai is not rare, and the name is mentioned in connection with Chên-chiang in 1305 in the 客杭日記 *K'o kang jih chi* (*H'a-lin ching ku ta'ung pien*, V, 2), fol. 1 r°. The author of this diary tells us that on the 20th September, 1305, when calling at a friend's house in Chên-chiang, "he was shown a *malimono* by the younger Mi (son of Mi Fei), and three scroll-paintings copied from the originals by Li Lung-mien: "Horses", "A Snow-covered Forest", and "A Tiger Running". These were the property of Mr. T'a-hai." 出示小米手軸臨伯時馬雪林行虎三卷塔海公物也.

For the governments named, see the *Tsao Sshü*, c. xxi, fol. 2 r°, 7 r°. The *stafu* were as follows: 宣慰使司都元帥府 Hsüan-wei-shih-ssü tu-yüan-shuai-fu:

使 shih 3, 同知 t'ung-chih 2, 副使 fu-shih 2, 經歷 ching-li 2, 知事 shih-shih 2, etc. (Kuang-tung is the first circuit under this heading); 都元帥府 Tu-yüan-shuai-fu: 都元帥 tu-yüan-shuai 2, 副元帥 fu-yüan-shuai 2 (fu tu-yüan-shuai, as in the text, does not seem to occur in the *Tsao Sshü*, c. xxi, but see c. ix, fol. 5 r°), 經歷 ching-li 1, 知事 shih-shih 1, 州 Chou (Sub-prefecture): 達魯花赤 ta-lu-hua-ch'ih 1, 州尹 chon-yin (or 知州 shih-chou) 1, 同知 t'ung-chih 1, 判官 p'an-kuan 1; 縣 Hsien (District): 達魯花赤 ta-lu-hua-ch'ih 1, 尹 yin 1, 丞 ch'eng 1, 簿 pu 1, 尉 wei 1, 典史 tien-shih 2.

Nan-an and Ta-yü in Kiangsi still bear the same names; Liu-yang is now a district instead of a sub-prefecture, and T'an-chou is now the prefecture (fu) of 長沙 Ch'ang-sha in Hunan. 京口 Ching-k'ou is one of the old names of Chên-chiang (between the time of the Three Kingdoms and the Liu Sung dynasty, cf. *Kuang-yü-hsing-ching*), and is one of the divisions of Chên-chiang fu in the *Tu-ti-chi-ching* (c. vii), fol. 1 r°.

XI. "K'uo-li-chi-ssü: a yeh-li-k'o-wên man. Early in Chih-ta (1308—1311) he was shao-chung tai-fu and ta-lu-hua-ch'ih of the central administration of the circuit of Chên-chiang, and subsequently lived here:

Lu-ho: son of K'uo-li-chi-ssü, ch'ao-lieh tai-fu and ta-lu-hua-ch'ih of the sub-prefecture of Chien-yang in the circuit of T'au-chou: . . .

Ma Hsieh-li-chi-ssü: a yeh-li-k'o-wên man. In the fifteenth Chih-yüan year (A.D. 1278) he was appointed ming-wei chiang-chün and assistant ta-lu-hua-ch'ih of the central administration of the circuit of Chên-chiang, and subsequently made his home there. He built seven monasteries — see the section on *Monasteries*; and every year he paid tribute in sherbet — see the section on *Local articles of tribute*"⁵²).

XII. "The house of the Ti-hsing Chao . . . was in the Chia-tao lane, and is now the Ta-hsing-kuo Monastery"⁵³).

⁵²) CSCCC, x. six, fol. 12 r^o. For K'uo-li-chi-ssü see p. 650 and note 49. The name Lu-ho (Laka) occurs in the *Yüan Shih*, x. cxxix, fol. 3 v^o, as that of one of the sons of the Western Christian 愛薛 Ai-hsieh (i. e., 'Isa, Jesus). For Mar Sargis see above and below, and especially note 47. For the titles and offices see notes 32, 47, 49; ch'ao-lieh tai-fu was the twenty-sixth civil title (從四品). For T'au-chou see note 51. When the book was published T'au-chou was officially called 天臨 T'ien-lin, the name having been changed in 1329, cf. *Yüan Shih*, c. lxiiv, fol. 3 v^o. A misprint seems to lurk under the characters 兼楊 Chia-yang, as no subprefecture of that name is given in the *Yüan Shih*, l. c., or *Sung Shih*, x. lxxviii, fol. 11 v^o, or in the 廣輿圖 *Kuang yü t'u*. At first sight one might be tempted to take 兼 as a conjunction, and translate: "Darughä of the circuit of T'au-chou together with the sub-prefecture of Yang". But there is no 楊州 Yang-chou in T'au-chou lu; it is highly improbable that one man would be Darughä of a *lu* and of a *chow* simultaneously; and for obvious reasons it appears impossible to refer it to the Yang-chou (then Yang-chou lu) in the modern Kiangsu, apart from the fact that Yang in the latter case is properly written 楊.

The passages referred to in the sections on *Monasteries* (c. ix, 僧寺) and *Local articles of Tribute* (c. vi, 土貢) are of course those which have been translated above (pp. 635, 647). In c. ix, fol. 17 v^o, under the heading 葡萄 P'u-t'ao (Grapes) it says: "The shé-li-pieh (sherbet) which this circuit now sends as tribute is made of these. For details see the section on *Local articles of tribute*." 今本路所貢舍利別即其所造也詳見土貢門.

⁵³) CSCCC, x. xii, fol. 5 v^o. This statement does not of course contradict the statement above (p. 636) that Mar Sargis made his own house into this monastery.

XIII. "The house of T'a-hai, assistant *tu-yüan-shuai* of Kuang-tung, was in the Chu-kan lane.

The house of Ma Hsieh-li-chi-ssü, assistant *ta-lu-hua-ch'ih* of this circuit, was in the Chia-tao lane.

The house of K'uo-li-chi-ssü, *ta-lu-hua-ch'ih* of this circuit, was in the ... lane" ⁵⁴).

XIV. "Jan [the old name for Chên-chiang] is an important market-town in the south-east. Under the Chin, [Liu] Sung, Sui and Tang dynasties, though the territory was large, its inhabitants were few in number; but by the time of the Chia-ting period in the Sung dynasty (1208—1224), although it comprised only three districts, the population was very large compared with that of former dynasties. After the unification of the north and south [under the Mongols], this prefecture filled up its old territory and also enclosed new; there was no more fighting nor interruption to trade, so that the census of the people taken in *kêng-yün* of Chih-yüan (1290) was about equal to that of the Chia-ting period ⁵⁵). In the autumn of the *hsin-ch'ou* year of Ta-tê, in the seventh moon (August, 1301),

The office of 提刑 seems to have been first instituted on June 16th, 991, according to the *Sung Shih*, x. v, fol. 3 r^o: 淳化二年三月...庚子置諸路提點刑獄官. Su Tung-p'o has a poem entitled 送張天覺河東提刑 "Farewell verses to Chang Tien-chio, T'ü-hsing of Ho-tung". The functions of a *t'ü-hsing* may be gathered from a passage in the 續會要 quoted in the *P'ü wen yüan* 建炎元年以盜賊未衰復置武提刑專督捉殺. "In the 1st year of Chien-yüan (1137), as there was no falling-off in the number of robbers and brigands, a military *t'ü-hsing* was again appointed, whose special duty it was to seize and put them to death".

⁵⁴) CSCCC, c. xii, fol. 6 r^o. For T'a-hai, see X, above.

⁵⁵) Namely: 109400 Families (戶); 614100 Individuals (口). This census is quoted in CSCCC, c. III, fol. 15 r^o, from the *Chia-ting Chü* or Description [of Chên-chiang] of the Chia-ting period (1208—1224), but is given under the heading 理宗時 "In the time of Li Tanag (1226—1264)". The section of the CTECC dealing with the population is now lost. The *Fâss Shih*, x. lxii, fol. 3 r^o, gives the 1290 census as 103315 Families, 628644 Individuals.

there was a great storm which washed away the sandbanks. After that, in the year *ting-wei* (1807), and again in *chi-ssü* of T'ien-li (1829), there was a visitation of plague. Numbers perished, and numbers migrated elsewhere. The present population is by no means equal to what it has been in the past, but what with immigration and a largely increased birth-rate, it has been gradually regaining its former level⁵⁶.

“SETTLERS

“FAMILIES: 3485 (City: 3399; Tan-t'u district: 299; Tau-yang district: 120; Chin-t'an district: 37):

“Mêng-ku (Mongols): 29 (City: 23; Tan-t'u district: 1; Tau-yang district: 3; Chin-t'an district: 2):

“Wei-wu-êrh (Uigurs): 14 (City: 12; Tan-yang district: 2):

“Hui-hui (Moslems): 59 (City: 49; Tan-t'u district: 5; Tau-yang district: 3; Chin-t'an district: 2):

“Yeh-li-k'o-wên (Christians): 23 (City: 19; Tan-t'u district: 3; Chin-t'an district: 1):

“Ho-hsi (Tangutese): 3 (City: 1; Tan-t'u district: 2):

“Ch'i-tau (Khitai): 21 (City: 19; Tan-t'u district: 2):

“Nü-chih (Nüchen): 25 (all in the City):

“Han-jên (Chinese): 3671 (City: 3251; Tan-t'u district: 286; Tau-yang district: 102; Chin-t'an district: 32):

“MEMBERS OF FAMILIES: 10555 (City: 8978; Tan-t'u district: 781; Tan-yang district: 604; Chin-t'an district: 192):

“Mêng-ku: 163 (City: 125; Tan-t'u district: 9; Tan-yang district: 14; Chin-t'an district: 15):

“Wei-wu-êrh: 93 (City: 81; Tan-yang district: 12):

⁵⁶) The 校勘記, c. 1, fol. 13 v^o, shows that the census given in detail below is probably that of the year 1831.

- "Hui-hui: 374 (City: 296; Tan-t'u district: 31; Tan-yang district: 40; Chin-t'an district: 7);
- "Yeh-li-k'o-wên: 106 (City: 92; Tan-t'u district: 7; Chin-t'an district: 7);
- "Ho-hsi: 35 (City: 19; Tan-t'u district: 16);
- "Ch'i-tan: 116 (City: 104; Tan-t'u district: 12);
- "Nü-chih: 261 (all in the City);
- "Han-jên: 9407 (City: 7099; Tan-t'u district: 706; Tan-yang district: 539; Chin-t'an district: 163);
- "SOLITARY INDIVIDUALS: 2948 (City: 2720; Tan-t'u district: 80; Tan-yang district: 88; Chin-t'an district: 60);
- "Méng-ku: 429 (City: 397; Tan-t'u district: 6; Tan-yang district: 17; Chin-t'an district: 9);
- "Wei-wu-êrh: 107 (all in the City);
- "Hui-hui: 310 (City: 279; Tan-t'u district: 11; Tan-yang district: 18; Chin-t'an district: 2);
- "Yeh-li-k'o-wên: 109 (City: 102; Chin-t'an district: 7);
- "Ho-hsi: 19 (City: 10; Tan-t'u district: 9);
- "Chi-t'an: 75 (City: 68; Tan-t'u district: 7);
- "Nü-chih: 224 (all in the City);
- "Han-jên: 1675 (City: 1533; Tan-t'u district: 47; Tan-yang district: 53; Chin-t'an district: 42);⁶⁷⁾"

67) CCCCC, c. lii, fol. 14, 19 v*, 20 r*, 21, 22 r*. How 錄事司 comes to be used in a sense equivalent to 本府 or the actual city of Chên-chiang as opposed to the outlying districts, is explained in 校勘記, c. i, f. 3 v*.

The whole of this remarkably interesting census of Chên-chiang (fol. 16—25) is appended in tabular form. The population is grouped under six main heads: 土著 Natives, 僑寓 Settlers, 客 Sojourners, 單貧 Paupers, 僧 Buddhist, and 道 Taoists. The division is not strictly logical, as it is evident that the members of the last three classes must also belong to one or other of the first three. The Settlers were not necessarily aliens; the great majority indeed were Chinese hailing from other parts of the country (他鄉之人). What distinguishes them from the Sojourners is that they were permanent residents, with some fixed occupation, whereas the latter were only tem-

perary visitors (久居其地而有恒產者、謂之僑寓、暫居其地而無恒產者、謂之客). The sub-classes enumerated in the first vertical column of the table denote either nationality (only under 僑寓) or profession. 民, denoting the bulk of the people, is said to include peasants, artisans, shopkeepers, traders, clerks, petty officials and slaves (民...蓋即農工商賈胥吏之流...而奴僕亦附於其中). 儒 are literati, 醫 physicians, 馬站 and 水站 couriers that travelled on horseback or by water respectively.

遞運站 seem to be the express messengers whose functions are so graphically described by Marco Polo (Yale and Cordier's edition, vol. 1, pp. 435-6). There was a hostelry or posting-station of this name in the city of Ch'ên-chiang, with 20 boats and 23 carriages attached to it (CSCCC, c. xiii, fol. 31 v^o). 急遞鋪 (the "chidehoo" of Friar Odoric) are, of course, the footrunners also mentioned by Marco Polo in the same chapter. A list of 鋪 "despatch offices" is given in CSCCC, c. xiii, ff. 33-34, under the heading 郵傳; and incidentally it may be noted that 郵 was the term used for postal runners as opposed to 置 mounted couriers (K'ang Hsi: 馬傳曰置、步傳曰郵). 弓手 are official underlings corresponding to the 差役 "runners" attached to a modern Chinese yamen. They are mentioned again in ch. xiii, f. 45 v^o, under the main heading 力役. 財賦 are apparently persons engaged in the collection of taxes, their name being derived from the 財賦府, frequently mentioned in ch. vi. There were none in the city itself, however, which is curious. See *T'ao Shih*, v. xix, fol. 9 v^o: 置總管府以司財賦. 海道梢水 are boatmen, 匠 skilled workmen, 軍 soldiers, 樂人 musicians, 龍華會善友 Members of the Lung-hua Sect. This was a religious Order dedicated to the worship of Maitreya Buddha. (See De Groot, *Sectarianism*, Vol. I, chap. 7.) The members did not shave their heads, otherwise they were hardly distinguishable from ordinary Buddhist monks. They possessed two meeting-places, one in the City and one in Tzu-t'zu. 陰陽 are professors of the occult arts, including divination, astrology, geomancy, etc. A school devoted to these subjects is mentioned in c. xi, f. 21, and c. xvii, f. 18 v^o. 打捕 are hunters; see *T'ao Shih*, c. lxxxix, f. 11 v^o; c. ci, fol. 7: 打捕鷹房人 "hunters and falconers". 怯憐口 *ch'ieh-lin-t'zu* or 怯憐口 *ch'ieh-lin-t'zu* (the name occurs several times in *T'ao tien ch'ang*, c. vii) appear as 齊哩克昆 *ch'ih-t'zu-kun* in later editions of the *T'ao Shih* (c. lxxxix, ff. 6 v^o, 8 v^o, 10 v^o) which have adopted the fantastic "reformed" spelling of the 元史語解 *Fu-ch'ien yü ch'ieh*. (Cf. CSCCC, 校勘記, c. i, f. 18.) They were Buddhist and Taoist monks who had re-entered secular life and were employed in the superintendence of certain manufactures, especially weaving and dyeing (怯憐口皆係從良還俗之人專司織染雜造之事). 僧行 and 尼行 are Buddhist, 道 and 女冠 Taoist, monks and nuns, respectively. 俗人 are lay brothers attached to the monasteries of both religions.

Each of the six main heads is also divided into 戶 *hu*, 口 *kou* and 軀 *ku*. The first two are the ordinary census terms, 戶 indicating households or families, and 口 the individuals belonging to them. Marco Polo (*top. cit.*, II, 122) speaks of 1,600,000 "fams" (*fams*) in Kinsey; these of course are 戶. As a matter of fact, the term 煙戶 or "hearth" is still used in the 大清會典 (1649 ed., v. xvii *ad loc.*). There is a slight difficulty with regard to the 戶 of Buddhist and Taoist monks, which are given as 310 and 131 respectively. It seems natural to suppose that each monastery, large or small, constituted a 戶. Certainly this is the case with the analogous establishments of the *luang-hsu* Fraternity, of which we know there were two, one in the City and one in Tan-t'u. And, likewise, the single 戶 of the 陰陽 may denote the school already mentioned. But the total number of Buddhist monasteries in Chên-chiang, according to *CSGEC*, *c.* 13, was only 177, and of Taoist monasteries (*c.* 13), 72. It is possible, therefore, that the larger monasteries were divided into two or more 戶. It is noteworthy that 11 out of the 310 Buddhist 戶 are said to 有妻, that is to say, celibacy was not enforced in those particular establishments. The wives and children of the married monks are presumably included amongst the 口. In the present work, as almost invariably in Chinese census returns, 口 embraces both males and females. In the records of the Sung period, it seems to represent the male population only, but the meaning "women and children", as opposed to 丁 "adult males", does not occur until the Manchu dynasty. (會典, *loc. cit.*; 男曰丁, 女曰口, 未成丁亦曰口.)

The greatest crux of this census is the inclusion of a mysterious class of people called 軀. Three theories as to the meaning of this term are discussed in the 校勘記, *c.* 1, ff. 14 *sqq.* (1) It has been suggested that 軀 is equivalent to 丁, because the *Wên* *ts'ung* *ts'ou* regularly gives the 丁 figures after the 戶 and 口. But a glance at the table will show the absurdity of this theory, according to which there would be only 233 adult males in a native population of 613,378. (2) A more plausible theory, at first sight, is that 軀 is the same as the 驅 or 驅奴 (slaves) of the *Tsao Shih*; see *c.* xiv, f. 3 *r*^o: 以儒爲驅古無有也. Cf. *c.* xliii, f. 2 *r*^o, *c.* xlvii, f. 2 *r*^o. But here again, the total number of slaves would be far too small in proportion to the population. Moreover, it appears from the continuation of the passage just quoted that all the literati who were captured and enslaved at the beginning of the Mongol dynasty had by a special act of exemption regained their freedom long before the Chih-shan period; so that the relatively large number of literati who are classed as 軀 is quite inexplicable. An even more decisive fact is that out of a total contingent of 692 Mongols (the conquering race), no fewer than 439 are 軀. (3) The true interpretation of the term is arrived at by considering its derivation. 身 is "body", and 區 (if it be more than a mere phonetic) would add the sense of "place", "lodging", or of "small", "unimportant". 軀 then means either a "lodger" or a "lonely body". He is a solitary individual, without kith and kin, as opposed to 口, who are members of 戶 or families. (凡言口者皆有家之人、凡言軀者、皆無家之人.) An instance

of 驅 in the sense of "lodger" is to be found in *Fān Shih*, v. ci, f. 1 v°: 於各戶選堪當站役之人, 不問親驅, 每戶取二丁 "From each household are to be taken men who are fitted to serve as postal carriers; every household has to furnish two able-bodied men (*tiang*), no matter whether they be *ch'in* or *ch'ü*". *Ch'in* is explained as meaning persons belonging to the family, while *ch'ü* are lodgers (所謂親者, 蓋其家之人, 所謂驅者, 蓋寄居之人). The combination 親驅 occurs in the *Fān Shih chuang*, v. xvii, f. 11 v°, col. 3; and in the table of contents, f. 60 v°, the form 驅 stands in the place of 驅 as printed in the body of the work. 驅 is another form of 驅, so that the latter character seems to have been used loosely for 驅 in the same sense. This is confirmed by two other passages in the *Fān Shih*, v. xciii: on f. 3 v°, 令諸路驗民戶成丁之數, 每丁歲科粟一石, 驅丁五升, 新戶丁驅各半之 "All the circuits were ordered to take a census of the adult males of the families of the people. Every ordinary adult was to pay an annual tax of one *shih* of grain, and every *ch'ü* adult was to pay 5 *shing*. The *tiang* and the *ch'ü* of every new household were to pay half the above amounts respectively". And, a little further on: 全科戶丁稅, 每丁粟三石, 驅丁粟一石 "Taking a complete estimate of the duties payable by the adult persons in a household, we find that each ordinary adult pays 3 *shih* of grain, and each *ch'ü* adult 1 *shih* of grain". It is natural enough that the *ch'ü* *tiang*, not being a member of a family, should have had to pay proportionately less. But if we take *ch'ü* *tiang* to mean an adult slave, we are reduced to the absurd and untenable proposition that slaves were obliged to pay poll-tax as well as their masters. On the whole, it will be found that this explanation of 驅 agrees very well with the figures in our table. In the first place, owing to the importance of the family in China, such solitary individuals would be very rare, especially in their own native place. Consequently, we need not be surprised at finding only one of them to every 2768 persons. On the other hand, we should expect their number to be much greater, as indeed it is, among the sojourners and settlers. The theory also accounts for the particularly large proportion of *ch'ü* to *tiang* amongst the Mongols and other foreigners from distant parts, including the *geh-ti-t'o-min*. The reason why there are no *ch'ü* among the Buddhist and Taoist monks is that each of them is regarded as belonging to a 戶 in his own monastery. Seeing that the 單貧 class includes 16 *ch'ü*, it is hardly necessary to say that the two terms must be kept quite distinct. 單 goes closely with 貧, and is not to be understood in the sense of "single" or "solitary". Exactly what degree of poverty is implied, it is difficult to say. If the *tan* *po* were anything like paupers in our sense of the word, it is rather odd that there should be 110 財賦 and 861 soldiers among them. [But of

Fān Shih, v. xxi, fol. 2 v°, year 1328: 三月庚午, 阿速衛兵出戌者千, 人人給鈔四十錠, 貧乏者六千一百, 人人給米五石.]

Another rather formidable difficulty is presented by the term *Hao-jên* (see above, pp. 655, 656). The 校勘記, c. i, fol. 19 v°, says expressly that these were Northern Chinese, as opposed to

南人 *men of the South* (所謂漢人者北方人也), and quotes from the 十駕齋養新錄: 漢人南人之分, 以宋金疆域爲斷, 江浙、湖廣、江西、三行省, 爲南人, 河南省唯江北淮南諸路爲南人. "The division of the Chinese into Han-jên and Nan-jên was based on the possession of territory by the Chins and the Sung respectively. The inhabitants of the three provinces Chiang-chê (= Kiangsu, Anhui and Chehkiang), Hukwang and Kiangsi were Nan-jên, while in the province of Honan only the people between the Yangtsze in the south and the Huang in the north were Nan-jên." But if the term 漢人 is restricted to Northern Chinese, it seems to follow that the 僑寓 are all natives of foreign parts, including the portion of China formerly ruled by the Chins, while natives of the South, other than Chên-chiang itself, must be comprised under 客. Is there any authority for such a distinction? On the other hand, if 漢人 denotes Chinese in general, one is still at a loss to understand why all the real foreigners should be classified under 僑寓, and none at all specified under 客. The problem is too complex for further discussion here, but it should be mentioned that the word 客 in this census is only a conjecture of the editor's for the unintelligible MS. reading 名.

The total population appears to have been as follows:— *Families*: 114315, of which 174 were foreign; *Individuals*: about 650000 (one item is lost), of which 2421 were foreigners. This makes the foreign families about 1.5 per thousand of the total, and the individuals about 3.75 per thousand. With these figures it is interesting to compare those given for the population of Hang-chou (Kinsay or Cansay) by Marco Polo and Odoric. Marco Polo gives 1,600,000 hearths; and Odoric 890,000, of which 40,000 were Saracens. Both writers, no doubt, unconsciously give the figures for the whole circuit and not for the city alone. Odoric, whose informant was probably a foreigner, makes the Saracens alone 4.7 per hundred of the population instead of 3.75 (or even 1.5) per thousand as all the foreigners together were at Chên-chiang. The 咸淳臨安志 *Hsien-shun Lin-an chí* (c. A.D. 1274, i.e. just before the flood of foreigners), c. liiii, fol. 2 r^o, gives the population of Hang-chou as: *Families*: 391,230; *Individuals*: 1,240,760.

The following are the details of the population of Chên-chiang city alone:—

	戶	口	軀
土著	9,469	48,537	170
僑寓	3,399	8,978	2,720
客	1,324	[73,900]	443
單貧	1,393	3,867	14
僧道	69	531	—
	35	175	—
	15,768	65,978	3,347
		69,325	

NOTES ON THE PLACES NAMED.

In the absence of any personal knowledge of the topography of Chên-chiang or of any detailed maps, it is hard to identify the old localities in a very satisfactory way. We have taken the map of Chên-chiang in a large native survey of Kiangsu⁵⁸⁾ which is believed to be fairly accurate as far as it goes, and have tried to fit into it the places named in the texts above in accordance with such scanty indications as are to be found.

The fortifications of the city appear to have been extremely elaborate or, at least, extensive, and as they consisted principally of earthworks the people seem to have acquired a habit of cutting a passage (土門 *t'u mén*) through them at any convenient point, until there were at one time at least twenty-six gates of various kinds, of which only four had at any time had towers. The exact history of these, given in detail in the *Chia-ting* and *Chih-shun Chên-chiang chih*,⁵⁹⁾ does not concern us now, but some few points may be noticed.

First there was the 子城 *Tzu-ch'êng*, a wall of 630 paces (about half a mile) in circuit and 31 feet high, surrounding the governor's residence (府治 *fu chih*) which was, we think, near — perhaps rather to the north-east of — the prefect's residence (府署 *fu shu*) of recent times in the north-east corner of the city. This was built in the first half of the third century and the earth vallum was faced with brick, an unusual device apparently in those early days which procured for the wall the name of 鐵甕城 *Tieh-wêng ch'êng* or *Iron pot vallum*⁶⁰⁾. In the 晉 *Chin* dynasty

58) We have not been able to discover the exact title or date of this valuable work, of which we have used a single volume kindly lent by Mr. G. T. Moule.

59) *LTCC*, v. ii, fol. 1—3; *CSCC*, v. ii, fol. 1—3.

60) *CSCC*, v. ii, fol. 2 v^o. The terms 子城 *Tzu-ch'êng*, 夾城 *Chia-ch'êng*

(A.D. 265–420) 王恭 Wang Kung altered and enlarged the circuit of the walls, and they were repaired again in the 南唐 Nan Tang dynasty (A.D. 939–958). But by this time the great outer wall (羅城 *lo-ch'êng*), 26 li 17 paces in circuit⁵¹) and 9 feet 5 inches high, had been built, for two of the gates are mentioned before the end of the ninth century. At about the same time (唐時) the two 夾城 *chia-ch'êng* or connecting walls were also built. Judging by the way in which the position of the gates of these two walls is described they seem to have been lines of wall connecting the governor's residence (i. e., the *tsü-ch'êng*) with the outer wall (*lo-ch'êng*) to the west and south-east respectively. In the same way there were two *chia-ch'êng* at 河南府 Ho-nan fu, each three li long and with two gates. They were east and west respectively of

and 羅城 *Lo-ch'êng* are all used in connexion with the walls of 杭州 Hang-chou in the ninth and following centuries. There, as at Chên-chiang, the *tsü-ch'êng* surrounded the governor's residence (治), and the *lo-ch'êng* was an outer line of defence nominally 70 li and actually perhaps 12 or 15 English miles in circuit. In both cases the *lo-ch'êng* was probably a simple earth-work — that at Hang-chou is so described by Marco Polo (YULE-COENEN, vol. II, p. 501, — “a kind of mound enclosing the city” (L. G. R. MONTGOMERY, *Hangchow past and present*, 1907, pp. 8, 54). A *lo-ch'êng* also surrounded 長安 Ch'ang-an in the seventh century (cf. *Far. Rev.*, No. 12, p. 114). The *chia-ch'êng* at Hang-chou is known only by the 夾城巷 *Chia-ch'êng lane*, a name which has persisted for about a thousand years though its origin has long been forgotten. At 泉州 Ch'üan-chou there seem anciently to have been three concentric walls — 衙城 *ya-ch'êng*, 子城 *tsü-ch'êng*, and 羅城 *lo-ch'êng*. — cf. 泉州府志 *Ch'üan-chou fu chih*, c. iv, fol. 1 r^o.

It is also recorded that Ching-k'ou (cf. note 51) was fortified in A.D. 326 — cf. *CSCCC*, c. ii, fol. 3 r^o. With regard to the Iron Pot Vallum, the commentary says that it was strengthened inside and out by glazed bricks (內外皆固以甃甃); and according to the 唐圖經 *T'ang tu ching* “the ancient designation of Iron Pot Vallum implies strong fortification, placing the city as it were in the category of those with ‘mortal walls and boiling water in the moats’” (古謂之鐵甃城者謂堅若金城湯池之類).

51) Or “20 li square”, see *Fü-tü-chi-shih* (c. vi), fol. 2 v^o: 唐末周寶爲潤帥築羅城方二十里.

the 官城 *Kung-ch'êng* and seem to have connected it with the 皇城 *Huang-ch'êng* outside (*Sung Shih*, c. lxxiv, fol. 5 r^b). Great alterations in the positions and names of some at least of the gates were made in 1214, but of the seven new gates then opened only two survived as long as sixty years. Some extracts from the passages which describe the walls and gates are here added:

"The outer wall (*lo-ch'êng*) is now in ruins. Formerly it had ten gates: on the east two gates, the northern called 新開 *Hsin-k'ai*, the southern called 青陽 *Ch'ing-yang*; on the south three gates, the eastern called 德化 *Tê-hua*, the due southern called 仁和 *Jên-ho*, the western called 鶴林 *Ho-lin*; on the west two gates, the southern called 奉天 *Fêng-t'ien*, the northern called 朝京 *Ch'ao-ching*; on the north three gates, the western called 來遠 *Lai-yüan*, the eastern called 利涉 *Li-shê*, the one further to the east called 定波 *Ting-po*. [A note here quotes mentions of the *Ho-lin* and *Ch'ing-yang* gates from the *Ch'ien-fu* period, 874—880.] The *Hsin-k'ai* and *Lai-yüan* disappeared long ago and now only eight gates remain: the eastern called 青陽 *Ch'ing-yang*; the western called 登雲 *Têng-yün* and 還京 *Huan-ching* (In *mou-shên* of Shun-hsi (A.D. 1188) the Hsien-hsüeh Chang Tzu-yen, the Prefect (October 1187—April 1190), changed *Ch'ao-ching* to *Huan-ching*); the southern called 鶴林 *Ho-lin*, 仁和 *Jên-ho*, and 通吳 *Tung-wu* (*Fêng-t'ien* was named *Tung-wu*); the northern called 利涉 *Li-shê* and 定波 *Ting-po*"⁶²).

In the year 1214, as has been said above, the Prefect 史彌堅 *Shih Mi-chien* repaired and altered the gates, opening the following new ones: to the north-west, 通津 *Tung-ching*; north

62) *CTCHU*, c. ii, fol. 1. In the note to *Tung-wu*, 奉天 *Fêng-t'ien* seems to be a slip for 德化 *Tê-hua*. The new name of the *Fêng-t'ien* gate was not *Tung-wu* but 登雲 *Têng-yün*. It will be remembered that both the *Têng-yün* and *Tung-wu* gates are mentioned in connection with the Christian monasteries (pp. 637, 642).

of the 北固亭 Pei-ku ting, 甘露 Kan-lu; south of the Pei-ku ting, 跨鰲 K'ua-ao; south-west, 東山 Tung-shan and 虎蹲 Hu-ts'un; further south and east of the Ho-lin, 放鶴 Fang-ho; south-east, 馬巷 Ma-hsiang⁶³). Of these the 咸淳鎮江志 *Hsien-shun Chên-chiang chih* (c. A.D. 1275) tells us that only the Fang-ho and Tung-wu (sic) remained⁶⁴). "But the gates which now survive are still twelve: the eastern called 青陽 Ch'ing-yang (2 *li* from the fu chih); the southern called 南水 Nan-shui, 通吳 Tung-wu, 仁和 Jên-ho, 中土 Chung-t'u (the four gates all alike 8 *li* from the fu chih); the western called 登雲 Têng-yün (8 *li* from the fu chih); the northern called 定波 Ting-po (8 *li* from the fu chih); the south-western called 鶴林 Ho-lin and 放鶴 Fang-ho (the two gates each 7 *li* from the fu chih); the north-western called 還京 Huan-ching (7 *li* from the fu chih); the north-eastern called 利涉 Li-shê (1 *li* from the fu chih) and 通津 Tung-ching (4 *li* from the fu chih). The Têng-yün, Tung-wu, Ho-lin, and Huan-ching formerly had towers, which are now all gone (The *Hsien-shun chih* says: Of the former eight outer gates only the Têng-yün, Tung-wu, Ho-lin, Huan-ching had towers, the other four were nothing else but gates in the wall)⁶⁵)

63) *Ibid.*, fol. 2 r°, 3 r°.

64) *CSCCC*, c. ii, fol. 2 r°.

65) *CSCCC*, c. ii, fol. 2 r°. The date at which these twelve gates still survived was we suppose the close of the Sung dynasty, though the remark below that all the gates were "now" gone may apply to those inside the *lo-ch'ing* only.

There seems to be some mistake about the two gates on the north-east. The *Chia-ching chih*, which is contemporary with the opening of the Tung-ching gate, certainly implies that it was to the north-west, and the name means "Leading to the Ferry", that is, probably, to the Western Ferry. 西津 Hsi-ching (*cf.* *CSCCC*, c. ii, fol. 7 r°, 通津坊在高橋西, 路通西津, 故名); and the same book says

that the Ting-po was "further east" (次東) than the Li-shê, so that it seems natural to substitute "western north" for "north-eastern". But such emendations have to be suggested with very great caution, and it will be noticed that the distances from the *fu*

"The *tsu-ch'êng* had four gates: the eastern called 望春 Wang-ch'uu (afterwards changed to 東海 Tung-hai); the southern called 鼓角 Ku-chio; the western called 欽賢 Ch'in-hsien (at the gate were two stone lions, so that the natives called it 獅子 Shih-tzu [Lion] gate...). The name of the north gate is not known.... The eastern *chia-ch'êng* had two gates: the southern called 建德 Chien-tê (afterwards changed to 朱方 Chu-fang)⁶⁶; the western called 清風 Ch'ing-fêng. The western *chia-ch'êng* had two gates: the eastern called 千秋 Ch'ien-ch'iu (afterwards changed to 鐵甕 T'ieh-wêng); the western called 崇化 Ch'ung-hua (afterwards changed to 高橋 Kao-ch'iao). Now the gates are all gone and only the foundations of the Ku-chio and Ch'in-hsien remain"⁶⁷).

At Chên-chiang as elsewhere the walls seem to have been destroyed in the Yüan dynasty, and when they were rebuilt it was on a somewhat reduced scale⁶⁸).

chia given for these two gates are quite consistent with the position (north-east) assigned to them. In favour of the emendation is the fact that Tung-yü, which was the only gate-name to survive in comparatively modern times, was then applied to the present north-east gate. The question is complicated by the casual mention in c. ix, fol. 5 v^o of an "eastern *li-shi* gate" (靈建寺在東利涉門裏).

66) The *Tsü ti ch'ü-shêng* (p. vii), fol. 1 r^o, gives Chu-fang as the fourth of six divisions (viz. 丹陽, 京口, 鎮海軍, 朱方, 北固, 丹徒) of Chên-chiang fu, and has this note on fol. 5 v^o: "Chu-fang: In the Ch'un-ch'iu days the place was Chu-fang" 朱方春秋時其地爲朱方. See also fol. 1 r^o, last column, where the *Tao Ch'uan* (襄公 28, § 6) is quoted: 齊慶封奔吳,

吳句餘子之朱方 "Ch'ing-fêng of Ch'i fled to Wu, where Kou-yü gave him the district of Chu-fang". This was in 545 B.C. The gate has a special interest because inside it (i.e., probably, to the north) stood until the thirteenth century a Manichaean or Zoroastrian temple, 火祆廟 Huo-hsien miao, CL CSCCC, c. viii, fol. 9 r^o.

67) CSCCC, c. ii, fol. 3 r^o. For the name Ch'ien-ch'iu see below (p. 670), and for T'ieh-wêng above (p. 661, note 60). Kao-ch'iao was the popular name of the 淞水橋 Lu-shui ch'iao, a bridge to the west of the Ch'ien-ch'iu bridge.

68) The present walls are about 11.5 li or 3.5 miles in circuit, but in comparing these measurements with the 25 & 17 paces of the old walls it must be noted that some indications tend to show that the old *Chên-chiang chia* used an extraordinarily short li.

Besides the walls and gates the following names occur in the passages translated above:

1. 夾道巷 CHIA-TAO HSIANG (Lane); see pp. 630, 653, 654. This does not come in the list of streets and lanes in the *CSCCC* though it is constantly mentioned in the other parts of the book. In the *CTCCC*, c. ii, fol. 5 r^o, we read: "The names of the lanes are: The rest [i. e. besides those named after persons or families] are: 長巷 Ch'ang lane, 夾道巷 Chia-tao lane, 遞鋪巷 Ti-p'u lane," The Chia-tao lane must have been near the Ch'ien-ch'iu bridge; but there is one place in the *CSCCC* (c. xii, fol. 4 v^o) which describes a house as "in the

The modern wall had six gates, of which two seem to have been closed lately, and two water-gates. In the following list of the gates *a* marks the names given on the map in the 丹徒縣志 *Tan-t'ia K'ung chih* which Father M. Tehang S.J. of Zikawei very kindly copied for us, *b* the names now in use kindly supplied by Dr. S. I. Woodbridge, and *c* the names given in the survey of Kiangsu (see p. 661) which shows all eight gates though it names only six of them:

1. NE. *a.* 定波 Ting-po.
b. 靖波 Ching-po.
c. 北 Pei.
2. E. *a, b.* 朝陽 Ch'ao-yang.
c. 東 Tung.
3. SE. *c.* 南水 Nan-shui (water-gate).
4. S. *a, b.* 虎踞 Ho-chü.
c. 南 Nan.
5. W(S). *a.* 金銀 Chin-yin.
c. not named.
6. W(N). *a.* 延暉 Yen-hui.
b, c. 西 Hsi.
7. N(W). *c.* 北水 Pei-shui (water-gate).
8. N. *a.* 十三 Shih-san.
c. not named.

Obia-tao lane *inside the tzu-ch'eng* 在子城內夾道巷.

2. 金山 CHIN SHAN; see pp. 640 *sqq.* This is certainly the promontory now known to Europeans as Golden Island, which has only ceased to be a real island within living memory (see p. 669 below). The account of it in the *CSCCC* is missing. The *Yü-ti-chi-shêng* says: "Chin Shan: in the River, 7 li from the city wall. The old name was Fou-yü [*Floating Jade*, because it came floating from the peaks of Yü-ching 自玉京諸峰浮而至者]. When Li Ch'i was governor of Jun Chou [Chên-chiang] in the T'ang dynasty he named it Chin Shan (*Gold Hill*), because P'ei T'ou-t'o had dug in the hill and found gold", and again: "Chin-shan Monastery: In the fourth year of T'ien-chien (A.D. 505) of the Liang dynasty Wu Ti came himself to the Tsê-hsin Monastery and instituted the Shai-lu Congress. In the monastery there is still the Prince of Liang's Hall. The *Huan-yü-chi* (c. A.D. 980) says: South-east (*sic*) of the city, in the Yang-tzu river. Note that the *T'u-ching* (c. A.D. 1012, cf. *CSCCC*, c. ix, fol. 9 v^o, 10 r^o) says that the original name was Fou-yü Hill; the Chin-shan Monastery was so named because T'ou-t'o found gold in the hill". The Chin-shan Monastery is the same as the Lung-yu Monastery (p. 641, note 35 above) ⁶⁹.

69) *Yü-ti-chi-shêng* (c. xii), fol. 7 v^o. 金山: 在江中去城七里舊名浮玉唐李錡鎮潤州表名——因裴頭陀開山得金故名; fol. 10 r^o: 金山寺: 梁天監四年武帝親臨澤心寺設水陸會今寺中尚有梁王殿袁宇記云在城東南楊子江中按圖經云本名浮玉山因頭陀得金故名——. Cf. *CYCCG*, c. vi, fol. 8 v^o—11 v^o. Another explanation of the name Fou-yü is given in the *T'u Shu*, VII, 101, *Shi L'ao* 5: An immortal is said to have dwelt there, and whenever he wanted to visit God, the island would float away of itself. (仙居浮玉山朝上帝則山自浮去). The note in *Marco Polo*, vol. II, p. 170, which says that the name Chin Shan was first given to the hill in 1684, is manifestly mistaken.

3. 竹竿巷 CHU-KAN HSIANG (Lane); *see* p. 654. Cf. *CSCCC*, c. ii, fol. 8 r^o and specially fol. 7 r^o where we read: "Ho-lin fang: at the mouth of the Chu-kan lane; the name is due to the fact that the road leads to the Ho-lin gate" 鶴林坊在竹竿巷口路通鶴林門因名. The lane must therefore have been somewhere in the south-western part of the city.
4. 福田山 FU-T'IEH SHAN (Hill); *see* p. 642. We have not been able to identify this.
5. 西津 HSI CHING; *see* p. 637. This appears on the modern map as 西淨鋪 Hsi-ching p'u, just at the mouth of the Grand Canal ⁷⁰) and east of Suan Hill. The 西津渡 Hsi-ching Ferry is described in the *CTCCC*, c. ii, fol. 6 v^o, 7 r^o, where it is said to be nine li from the fu chih and formerly to have been known as 蒜山渡 Suan-shan tu or Suan Hill Ferry, and in the *CSCCC*, c. ii, fol. 32 v^o—34 r^o.
6. 黃山 HUANG SHAN (Hill); *see* p. 637. Of this we have found no trace beyond what the text tells us, except the name of 黃山里 Huang shan li in a list of places west of the District [of Tan-t'u] (在縣西). Cf. *CSCCC*, c. ii, fol. 12 v^o.
7. 開沙 K'ai-SHA; *see* p. 637. This is one of six 沙 Sha in Tan-t'u District, and forty li from the city (開沙去城四十里. *CSCCC*, c. vii, fol. 4 r^o). The 開沙巡檢司 K'ai-sha Inspector's Office is mentioned in the *CSCCC*, c. xvii, fol. 1 v^o, c. xiii, fol. 41 r^o, 45 r^o; and K'ai-sha, as a locality, in several places. See especially c. vii, fol. 15 r^o, where it is said that the Lo-po Creek is in K'ai-sha, in the Tan-yang District (丹陽縣: 蘿蔔港在開沙). A sha is apparently a habitable sand-flat deposited by the river, such as is also called 洲 chow

⁷⁰) Cf. *CSCCC*, c. xiii, fol. 83 v^o; 西津鋪北渡江至瓜州十八里南至府前總鋪十里.

or 沙洲 *sha chow*, and so we may suppose that the Christian monastery at K'ai-sha was near the River and about nine or ten miles from the city. The formation of a *sha* or sand-bank is described in the *CSCCC*, c. xi, fol. 5 v^o, 6 r^o, somewhat as follows. People living on the River bank are warned by a change in the colour of the water that sand is collecting on the bottom of the river. The sand rises gradually from the river-bed until it emerges from the water, and first of all only a small yellow flower grows on it. On its first appearance it is called 塗泥地 a mud flat; when the flowers come it is known as 黃花雜草地 *Huang-hua-tsa-ts'ao ti* (*Land covered with nondescript yellow-flowered herbage*). The period of formation varies from three to five years. When the yellow flower gives place to reeds, whole stretches of many miles become good arable land. The note ends: "When I was in Tau-t'u I heard that a sand-bank was going to form south of Chin shan. Who knows whether at some future time Chin shan may not be united again with Jun Chou?"

An Inspectorate (巡檢司) was a subordinate division of a District (縣). Cf. *Yüan Shih*, c. xci, fol. 7 v^o.

8. 豎土山 *Sau-t'u shan* (Hill): see pp. 637, 642. This was an alternative name for 銀山 *Yin shan* (*Silver Hill*, not to be confounded with the foreigners' *Silver Island* or 焦山 *Chiao shan*). The *CSCCC*, c. vii, fol. 1 v^o, has the following notice: "T'u Hill is at Chiang-k'ou [i. e. the point where the Canal enters the River] west of the *hsien*; it is vulgarly called Shu-t'u Hill [A note here explains that the name was written 植土 *Chih-t'u* for reasons of taboo, 豎 *Shu* being identical in sound with 曙 *Shu*, which was the personal name of the Sung Emperor Ying Teung]. It was formerly connected with the Suan Hill. . . . The name has now been changed to Yin Hill. After the unification

of the Empire a Buddhist monastery was built on the top of the hill, and because the peak made a pair with Chin Shan (*Gold Hill*), the name was changed to Yin Shan (*Silver Hill*); it now belongs to the Chin-shan monastery." 土山在縣西江口俗呼豎土山 舊與蒜山相屬 今改名銀山: 混一後建佛寺於山頂以其與金山對峙故易名銀山今屬金山寺. Suan and Yin are both marked on the modern map, east of Chin-shan or *Golden Island*. On the east of the Shu-t'u Hill there was also a temple of T'ien-fei, the sailors' Goddess.⁷¹⁾

9. 丹陽館 TAN-YANG KUAN; *see p.* 650. This was a great government hostelry. It stood on the south bank of a canal, for boats were moored behind it,⁷²⁾ and the front gate was on the south side. It was near and to the west of the Ch'ien-ch'iu bridge, which in its turn was west of the governor's residence (*fu chih*).⁷³⁾ The CSCCC gives the following description of it: "Tan-yang i: formerly named Tan-yang kuan; west of the Ch'ien-ch'iu bridge. It was founded by the governor Chêng Tzu in the fourteenth Shao-hsing year (A.D. 1144) in the Sung dynasty. On the south is the middle gate; and to the east and west two lodges both facing south; on the north by the canal side is a covered place

71) CSCCC, c. viii, fol. 13 r°. 天妃廟在豎土山東.

72) 錢塘遺事 *Ch'ien-t'ang i shih*, c. 13, fol. 3 r°. 泊舟丹陽館後.

73) *Fu ti chi shing* (c. vii), fol. 12 r°. 丹陽驛: 在千秋橋之側 "Tan-yang pooling-station: by the side of the Ch'ien-ch'iu bridge", and fol. 9 r°, 千秋橋: 在府治之西晉王恭作萬歲樓於城上其下有橋故以 || 名之 "Ch'ien-ch'iu bridge: west of the fu chih. Wang Kung in the Chin dynasty built the Wan-sai (*Ten thousand years*) tower on the wall, and below it was the bridge, so he took Ch'ien-ch'iu (*A thousand Autumns*) for its name". The account of the bridge in the CSCCC is missing; the CTCSC, c. ii, fol. 5 r°, 6 r°, gives exactly the same description as the *Fu ti chi shing*.

for the convenience of those who land or embark. It was restored by the governor Chao Chin in the seventh Hsien-shun year (A.D. 1271), and Lu Hsün-fu, a native of the place, recorded the event with an inscription. After the unification of the Empire [under Khubilai Khan, A.D. 1280,] frequent additions were made to the building, so that the total number of rooms in the hostelry amounts to 109. Messengers arriving on horseback are put up in the west wing, those arriving in boats in the east wing. The stables are situated on the west side of the west wing. They comprise forty-five stalls, holding eighty horses: Out of these, forty are always ready saddled: There are thirty boats: These are distinguished by the characters 天 (*Heaven*), 地 (*Earth*), etc. [the first thirty characters of the 千字文 *Ch'ien tsü wên*]: ready to fetch guests or to take them away" 74).

10. 雲山 YÜN SHAN (Hill); see p. 637, and 8. SHU-Y'U SHAN above. As the monastery was called 雲山 Yün-shan or 銀山 Yin-shan, so perhaps the hill too was called alternatively. 銀 Yin or 雲 Yün. One peak of the Yin Hill is marked as 雲臺山 Yün-t'ai Hill on the modern map.

74) CSOCC, c. xlv, fol. 31: 丹陽驛舊名丹陽館在千秋橋之西宋紹興十四年郡守鄭滋建南爲中門東西列二館皆南向北臨漕渠爲亭以便登降咸淳七年郡守趙潛重修郡人陸秀夫爲之記混一後屢加繕葺館舍共一百九楹使客之馳驛而至者則西館處焉其乘舟而至者則東館處焉馬廄在西館之西凡四十五楹馬八十匹正馬四十匹備馬四十匹船三十隻以天地元黃宇宙洪荒日月盈昃辰宿列張寒來暑往秋收冬藏閏餘成歲律呂爲號以備迎送

11. SAMARKAND; *see* p. 631. With regard to the Christians at Samarkand and the Church with the hanging pillar Marco Polo says:

Ci devise de la grant cité de Saumarcand.

Sanmarcan est une grandissime cité et noble. Les jens sunt cristieus et sarazins. Il sunt au neveu dou grant Can, et ne est pas son ami, mès plasors foies a nimisté com lui. Ele est ver maistre; et voz dirai une grant mervoie que avint en ceste cité. Il fu voir qu'il ne a encore gramment de tens que Cigatai le frere charnaus au grant chan se fist cristieus et estoit seingnor de ceste contrée et de maintes autres. Et les cristieus de le cité de Sanmarcan, quant il virent qe le seingnor estoit cristieus, il en ont grant leese, et adonc firent en celle cité une grant gliese à le onor de Saint Johan Batiste, et ainsi s'apelloit celle yglise; il pristrent une mout belle pieres qe de saraisins estoit, et la mistrent por pilier d'une colone que en mi leu de la yglise estoit, et sostenoit la covrever. Or avint que Cigatai murut, et quant les sarazins virent qe celui estoit mort, et por ce qe il avoient eu, et avoient toutes foies grant ire de celle pieres qe estoit en le glise des cristieus, il distrent entr'aus qu'il vulent celle pieres por force, et ce pooient-il bien fair, car il estoient dix tant que les cristieus. Et adonc auquans des meiors saracin alent à la yglise de Sant Johant et distrent à cristieus qui estoient qu'il voloient celle pieres qe lor avoit esté. Les cristieus distrent qu'il les en volent tout ce qu'il voдрont et laissast la pieres, por ce qe trop s'iroit grant domages de la yglise, se celle pieres s'en traisti hors. Les sarazin distrent qu'il n'en volaient or ne tesor, mès voloient lor pieres en toutes mainères. Et que voz en diroie? La seingnorie estoit à cel neveu dou grant Chan: il font faire comandament as cristieus que de celui for à deus jors deussent rendre celle pieres as sarazin. Et quant les cristien ont eu cel comandement, il unt grant ire,

et ne seient qu'il deussent faire. Or en avint tel miracles (come) je vos conterai. Sachiés que quant le maitin dou jor que la pieres se dovoit rendre fu venu, la colonne qe estoit sor la pieres, por la voluntés dou nostre seingnor Jezucrit se hoste de la pieres, et se fait en aut bien trois paumes et se sustenoit ausi bien con ce la pieres hi fust sout, et toutes foies de celui jor avant est ausi demoré celle collune, et encore est-elle ensint, et ce fu tenu et encore est tenue un des grant miracle qui avénisse au monde.⁷³⁾

NOTES ON THE MAPS

BY A. C. M.

1. The Map of Chên-chiang is sufficiently explained above (p. 661). The names of hills etc. inserted are those which are found both on the modern map and also in one or both of the old *Chên-chiang chíh*, with some slight corrections as, e. g., the restoration of 黃鶴山 Huang-ho shan for 橫鶴山 Hêng-ho shan, 西津 Hsi-ching for 西淨 Hsi-ching, or 磨 Mo for 摩 Mo. The positions of the old gates, though uncertain, are in no case due solely to guesswork.

2. The Map of Lin-an or Hang-chou is far more elaborate than was necessary for the identification of the position of the Christian Church at the 薦橋門 Chien-ch'iao gate, but it is hoped that it may be of some interest as illustrating the famous accounts of Hang-chou in Marco Polo, Odoric, and elsewhere. It is copied from

73) *Récueil de voyages etc.*, tom. 1, pp. 49, 50. Cf. *Marco Polo* (Yule-Cordier), vol. 1, pp. 183—186. Chagatai is no doubt Chagatai (察合台 Ch'a-ho-t'ai) who was Chingis' second son and therefore Khubilai's uncle rather than his brother. Chagatai seems to have been succeeded in 1242 by his grandson who would have been in the same generation as Khubilai's nephew. Cf. ВЛАСОВИЧЕНКО, *Medieval Geogr.*, pp. 180, 181; *Med. Rev.* (1910), vol. II, p. 16; *Flores Sikk*, c. cvii, fol. 5 r^o. It is interesting to find one passage in this old description of Chên-chiang confirming three details of Marco Polo's story for which no other corroboration seems to be quoted by Colonel Yule or M. Cordier.

the map which was prepared for my late Father's *Notes on Hangchow past and present*, with considerable extension to the west. Thanks to the help of my Father and my brother, H. W. Moule, and other friends, and to the excellent native maps available, this map will, it is hoped, be found fairly reliable as far as it goes. The native maps referred to are first the wonderful thirteenth century maps of the City, Palace, Lake, and River in the 咸淳臨安志 *Hsien-shun Lin-an shih*. While making little or no pretence of correct contours from a modern point of view, these contrive to indicate here and there a bend in a street or canal or city wall in such a way as to make it easy for one who knows the place to restore the city of those days with practical certainty. Next come a series of modern maps of which the best are the 浙江省垣城相總圖 *Ché-chiang sheng yüan ch'ing, hsiang tsung t'u*, c. 1870, and the 西湖圖 *Hsi-hu t'u*, 1880, and the maps and itineraries of the whole province called 浙江全省輿圖並水陸道里記 *Ché-chiang ch'üan sheng yü t'u ping shui lu tao li chi*, 1894. From the map of 錢塘縣 *Chien-t'ang hsien* in this last work all the portion of our map west of the lake has been copied with the least possible alteration.

The gates of Lin-an, in Marco Polo's days were the following (cf. *Notes on Hangchow etc.*, pp. 54, 55, 64), beginning at the extreme north of the east wall and going southwards and so round in order:

艮山 Kên-shan.

東青 Tung-ch'ing (or 菜市 Ts'ai-shih).

崇新 Ch'ung-hsin (or 薦橋 CHIEN-CH'IAO).

新開 Hsin-k'ai (or 新 Hsin).

保安 Pao-an (or 小堰 Hsiao-yen).

保安水 Pao-an shui (water-gate).

候潮 Hou-ch'ao.

便 Pien.

北出水 Pei-ch'u shui (water-gate).

南入水 Nan-ju shui (water-gate).

嘉會 Chia-hui (formerly 利涉 Li-shê).

錢湖 Ch'ien-hu.

清波 Ch'ing-po (or 暗 An).

豐豫 Fêng-yü (formerly, and later, 湧金 Yung-chin).

錢塘 Ch'ien-t'ang.

餘杭 Yü-hang (or 北關 Pei-kuan).

餘杭水 Yü-hang shui (water-gate).

天宗水 Tien-tzung shui (water-gate).

Outside the eastern wall were the remains of the old 羅城 *lo-ch'ing* retaining the names at least of two or three gates:

北土 Pei-t'u (outside the Tung-ch'ing, and now called 慶春 *Ch'ing-ch'un*).

南土 Nan-t'u (the present 清泰 *Ch'ing-t'ai*).

竹車 Chu-chü (the present 望江 *Wang-chiang*).

In the south-east of the city was the Imperial City (宮城 *Kung-ch'eng*) with these gates:

1. 和寧 Ho-ning (on the N., the present 鳳山 *Fêng-shan*).

2. 東華 Tung-hua (on the north).

3. Unnamed (on the east).

4. Unnamed (water-gate).

5. 東便 Tung-pien (on the south).

6. 麗正 Li-chêng (on the south).

7. 府後 Fu-hou (leading to the pleasure grounds on the 鳳凰山 *Fêng-huang* hill).

8. 大紅 Ta-hung (leading by the 萬松嶺 *Wan-sung ling* to the lake. Cf., perhaps, *Marco Polo*, vol. II, p. 207 "a covered corridor of great length, and extending to the margin of the lake").

Inside the Imperial City was the Palace proper. (大內 Ta-nei) on the little hill (疊頭山 Man-t'ou shan) which is, or was lately, occupied by a military camp just opposite the Fāng-shan gate.

No streets inside the city are shown on the map except those which are marked on the old maps, and modern canals are omitted. Outside the city, canals and roads are shown more or less as they exist to-day, but the river has been restored to its old course.

CHINESE TEXTS. 1)

1. 僧寺²⁾

本府

大興國寺在夾道巷至元十八年本路副達魯
花赤薛里吉思建儒學教授梁相記(其畧曰
薛迷思賢在中原西北十萬餘里乃也里可溫
行教之地愚問其所謂教者云天地有十字寺
十二內一寺佛殿四柱高四十尺皆巨木一柱
懸虛尺餘祖師麻兒也里牙靈迹千五百餘歲
今馬薛里吉思是其徒也教以禮東方為主與
天竺寂滅之教不同且大明出于東四時始
東萬物生于東東屬木主生故混沌既分乾坤
之所以不息日月之道也故謂之長生天十字者取
蕃盛一身揭于屋繪于殿冠于首佩于胸四方上
像人身以是爲準薛迷思賢地名也里可溫教名也
公之大父可里吉思父滅里外祖撒必爲大醫

1) The texts are copied from the printed edition of the GSCCC, 1842. The variants of the MS. which are given below are taken from the critical notes (校勘記) in that edition. The commentary, which in the original is printed in small characters and double columns, is here enclosed in brackets thus (). A vertical line thus | marks the end of a page of the original. The Roman figures in the margin correspond to those in the margin of the translations above.

2) 僧寺, the heading of c. 12, is not in the MS.

祖舍祖八公賽里府常神有忽石二沙的里樣公相江爲臺迎關敕示緝
 外位世里也同舍江謹二而世荅寺開建馬建心丞賜頃秋溫八且條因
 公御年舍名年造鎮尤重覺八建山縣山建門之澤撥四役可忽備廢矣
 病充五修職九爲軍教七記建並明徒黃又橋公完仍十之里思大可心
 延愈元甚赤職皆將持開爲宅山聚丹外側薦于耳持三木也必爲不用
 那始至賽八專浙大顯門物捨土刺于門寺州起寺護田土爲河始謹之
 可禱罕賞里以閩遠榮天白門鑒木又雲國杭實之書民興悉理場也公
 也祈刺八舍牌往懷登中以甕忽阡登興寺大泉七而聞浙年戒兒寺世可
 子衆荅里成金年符雖夢贈鐵西兒義寺大泉七而聞浙年戒兒寺世可
 太徒溫舍而降二虎赤一夕所于得吾溫安寺甘此——奏置五受麻七八益
 地牙可入和特十命花一七首次打可瀆安刺寺見寺益江口牙而利計
 其昔里進蜜驗南宣魯法寺寺都里四高木興自七又鎮人昔文舍窮
 得哈也驛調有雲受達教興建寺寺也刺刺忽普以建頃任之哈經持無
 初里處馳泉且往欽副廣當務國寺爲木木思大無心十公家里奉住續記
 帝馬本公果法章年府推汝官典山爲木忽忽吉刺國好三住民馬安水似爲
 皇八赤召香其平四管于云休大雲册忽忽吉刺國好三住民馬安水似爲
 祖里八帝諸精赤十總志告遂刺之打海瓦忽君公官寺優佛妙孫誠所
 太舍里皇煎世典八路有人感木忽寺建廉結宜忠謂南七無禮揚子訓其

3) The omission of 木 after 忽 is perhaps a misprint of the 1842 edition, as it is not noted in the *Chiao Nan chi*.

甘泉寺在大興國寺之側

大光明寺在丹陽館南元貞元年安馬吉思建

[CSCCC, c. ix, fol. 8 v^o—9 v^o.]

II.

丹徒縣

龍游寺⁴⁾在金山舊名澤心不知始于何時(或云始晉建武)梁武帝嘗臨寺設水陸會(梁高僧傳天監四年武帝臨澤心寺設水陸會宋熙甯中有進士楊諤者作金山水陸因緣記引此事載于記中碑見存)或云起于唐之裴頭陀(祥符圖經 | 寺起于唐之裴頭陀...)| 閣五... | 曰萬佛翰林侍講虞集爲記(其文曰...山有佛祠始建于晉明帝時梁武帝著水陸齋儀親至其寺行之至宋真宗賜名龍游禪寺國朝至大已酉僧應深以天予之命主之兼舁以馬薛里吉思所據銀山東西二院且勅使修水陸大會如梁之儀延祐至治間又兩勅建會如至大故事于是應深以辛酉之歲卽寺之右建大閣焉上嚴萬佛之像下肖羅漢之容爲位五百...)| ...

[CSCCC, c. ix, fol. 9 v^o, 10 r^o, 12 r^o, 12 v^o.]

III. 四瀆安寺在開沙本路副達魯花赤馬薛里吉恩建

大法興寺在通吳門外福田山(亦也里可溫寺也)

[CSCCC, c. ix, fol. 18 r^o.]

IV.

院

本府...

丹徒縣...

4) In the MS. this monastery is placed next after the 普照寺 P'o-chao ssu (c. ix, fol. 3 v^o—4 v^o; ed. 183E).

魯雲院曰院乘作塔像持重玉旣山孟武齋山鎮頭乃壯勅來有名抵聲里屋西
 達曰下畧政兒檀白圖護以奉寺金臣建營地任岡年以奉去甯古來傾薛所嗜
 副一山其宜木溫塑龍書罪特字爲極晉寺及思津七益又無已山南貫馬之區
 路寺金(遺帖可畫天聖坐都十以無山卽田吉西有流霄空而金山融溫絕葬
 本二爲碑書失里前薩降者音蓋永示金成津里寺十中昂虛一也諸理可秀類
 年建改撰聖荅也命菩洊爭海修壁傳按式西薛字二峯潘如則法南脈里峯儕
 六地年勅降臣曰字佛辰爭臣勢寺山謹法南馬十歷一土二門謂江峯也危爲
 十山四奉誕丞省十壁庚勿使倚畫金云陸江溫兩奪昭學不法所下之年掇隙
 元金大類申司書拆屋山孫德溫繪碑文水賜可建所輝林門其佛天流六甚營
 至卽至孟甲使中毀殿金孫功可像立爲監名里赤溫方翰林門而吾絕中十張寺
 巔思寺趙月德行其寺還子都里佛文首天游也花可三)矣現非勝視元勢山
 山吉山士五功處地作以子戊也作爲稽梁龍年魯里院云大而法流峙至符銀
 土里明學歲都等山改物溫庚道重顙手心改六達也下云佛緣爲中對然郡曰
 鑒薛聚賢之閭浙金往用可月外其孟拜澤符十府爲爲頌曰應以江岩護監教
 在——曰集極潑江于高須里一地塑臣謹名祥元管地寺作(畧土此大巉外綰彼
 院馬一名登官喻寺劉給也有山所命倭寺中至總田二乃(剎外乎止若者祠
 若赤寺今帝事馳字工具山十金拆院不立大朝路山得——碑千乎屹而顧思顙
 般花山賜皇斷驛十寺官金論音除下顙始宋皇江金復偉撰大二剎江揖吉其

容寺供若邦牙
正郎清般李旦
之等新寺臣
法閭一山士旨
以婆碧金學承
法臣紺名大士
正政金錫賢學
爲宣朱老集林
佛勅相長羨翰
吾祚梵聲讀遠
唯踐刹應誠永
六皇京海歸示
有今倣佛辭珉
十耶之持一堅
九外去住域文
道有撒山舉宜
之邪像金院奏
竺有故付禪甯
答思承

[CSCCC, c. ix, fol. 24 r^o - 25 r^o.]

V. 土貢 . . .
今貢

赤花魯達副路本前四十瓶(別舍里吉思備蒲萄木瓜香橙等物煎造官給
赤花魯達副路本前四十瓶(別舍里吉思備蒲萄木瓜香橙等物煎造官給
馬薛里吉思備蒲萄木瓜香橙等物煎造官給
船馬入貢)

[CSCCC, c. vi, fol. 20 r^o, 21 r^o.]

VI. 鎮江府路總管府(至元十三年十二月改江陰鎮江安撫使司爲鎮江府路總管)¹⁾

達魯花赤²⁾

昔刺罕(蒙古人昭勇大將軍至元十三年二月一日至次日即去任赴北)嚴忠傑(東平人虎符昭勇大將軍兼管軍萬戶至元十四年三月至十五年五月十七日改授浙東道宣慰使)馬薛里吉思³⁾(也里可溫人虎符懷遠大將軍至元十五年正月二十五日至八月一日再降金牌改授明威將軍副達魯花赤)張燿(字彥明彰德人太中大夫至元十五年十一月九日至十六年五月三日以足疾辭職)

[CSCCC, c. xv, fol. 5 v^o, 6 r^o.]

1) 府 should probably be added here.

2) 達魯花赤 is written in small characters in the MS

3) In the MS the characters 吉思 are written small as if they formed part of the commentary.

月元士元辦城俠其間而里日議五衣十之豈卽賦歸郡
二慶代至散定豪增與戶閭寡建百輟過縣也是受復初
十皇日曰號十而課不甲皆民郡月業無也縣在第八賦也
年夫二略民五旣縣民選往而中者產月民於不等之是
元大月其於百奇屬法例往重大多棄家是加豈戶邑唯
慶議一撰賦六有割改酤歲課至均蹶大均可職中縣不
皇嘉十翼以鈔貫重而權一且弊能困縣曰不民上樂績
至人年陽課統千中稱仍支振其不愈屬慨之長從之嘉
日溫三青定中四城倍郡數自勝法民視至申官議仰之
六可祐人息賦租權貫禁十切不斂千焉公城泄便俯公
月里延郡月月占辜百者人操故而百亡矣猶乎舊幾然
八也至碑最萬實願五利中以償在十逃遠中間其庶均
年平(日之酤十千自千擅及無以仍數或絕城不還人不
元太九思權戶八者二豪乃力家課乃者懸於遂各人或
大)月去官郡能金萬權已弱傾縣下甚重移而曰半罔
代二立罷闔不刺一幾焉細負辦其輪輕可已省大亦
至日十爲寅江民不總未辦賈月散千以者不得行力舊
夫九年民庚鎮中一數也督商虧復十食千課其上實其

甚時惟道病幸重司令秉惠在
擾賦與杭告若釋有法之幸碑
民歛無絲工之除斷一蓋方云
奸秋歲受絲輪弊屢一焉殖云
緣人終吏弊且簡直下歸滋碑
並百家織其絲力聽治田養之
吏三其典受餘焉府上而休思
人者復擾庫有許大奉絕山去
千負且弗府用省載守乃大爲
徒備直是利歲之十固訟乃大爲
役備用征也聞三立私長著傍
歲業受民交郡便田特以此石道
漕中下焉且鄰弗學公干如成
海郡廩役至鄴豈占命莫類心
米募米至時建我貴用人事衆
歸乃負運不日給豪謹事立已
倉公使海遠公以負弗從心未

[CSCCC, c. xv, fol. 6 v^o—7 v^o.]

IX. 宰貳 . . . |
丹徒縣 . . . |
元

達魯花赤

馬奧刺慈 (也里可溫人忠翊校尉元貞二年
六月至) . . . | . . . 幹羅思 (也里可溫
人承務郎天歷二年八月至)

[CSCCC, c. xvi, fol. 1 r^o, 3 v^o, 4 v^o, 5 r^o.]

X. 安馬里忽思 (也里可溫人居鎮江中憲大夫
同知廣東道宣慰使司副都元帥) 也里牙
(安馬里忽思子以父廕忠翊校尉南安路大
庾縣達魯花赤今昭信校尉同知潭州路瀏
州事) . . .
塔海 (也里可溫人居京口正議大夫同知廣
東道宣慰使司副都元帥卒)

[CSCCC, c. xix, fol. 11 v^o.]

- XI 闊里吉思 (也里可溫人至大初少中大夫鎮
江路總管府達魯花赤因居於此) 魯合(闊里
吉思子朝列大夫潭州路兼楊州達魯花赤)
馬薛里吉思 (也里可溫人至元十五年授明
威將軍鎮江路總管府副達魯花赤因家焉嘗
造七寺見僧寺類每歲貢舍里八見土貢類)

[CSCCC, c. xix, fol. 12 r^o.]

- XII. 提刑趙□宅在夾道巷今爲大興國寺

[CSCCC, c. xii, fol. 5 r^o.]

- XIII. 廣東副都元帥塔海宅在竹竿巷
本路副達魯花赤馬薛里吉思宅在夾道巷

本路達魯花赤闊里吉思宅在□□巷

[CSCCC, c. xii, fol. 6 r^o.]

- XIV. 潤爲東南重鎮晉宋隋唐地大民鮮至宋嘉
定間所統惟三縣而戶口之繁視前代爲最
北南混一元庚寅風二紀視昔矣
肆故至七月已由復舊觀矣
丑秋七歷有漸
泊天在涵育
在聚

僑寓

戶三千八百四十五 (錄事司三千三百九十一
九百二十九縣二金壇縣三十七) | 丹陽縣一
蒙古二十 (錄事司二十三) 丹徒縣一
丹陽縣三金壇縣二)
畏吾兒一十四 (錄事司一十二) 丹陽縣二)

回回五十九 (錄事司四十九 丹徒縣五
丹陽縣三 金壇縣二)

也里可溫二十三 (錄事司一十九 丹徒
縣三 金壇縣一)

河西三 (錄事司一 丹徒縣二)

契丹二十一 (錄事司一十九 丹徒縣二)

女直二十五 (並錄事司)

漢人三千六百七十一 (錄事司三千二百
五十一 丹徒縣二百八十六 丹陽
縣一百二 金壇縣三十二)

民(缺)⁵⁾ |

儒八 (錄事司六 丹徒縣一 金壇縣一)

醫五 (錄事司四 丹陽縣一)

陰陽一 (錄事司)

站二十六 (錄事司二十三 丹陽縣三)

急遞鋪二 (錄事司一 丹陽縣一)

打捕一十四 (錄事司一十二 金壇縣二)

匠一十八 (丹徒縣七 丹陽縣八 金壇
縣三)

軍三千三百六十七 (錄事司三千一十
一 丹徒縣二百七十七 丹陽縣六
十三 金壇縣一十六)

怯恰口二十三 (錄事司二十一 丹陽縣
二) |

□九 (並錄事司)

樂人四 (錄事司三 丹陽縣一)

口一萬五百五十五 (錄事司八千九百七十
八 丹徒縣七百八十一 丹陽縣六
百四 金壇縣一百九十二)

⁵⁾ These two words are not in the MS.

蒙古一百六十三 (錄事司一百二十五
丹徒縣九 丹陽縣一十四 金壇縣
一十五)

畏吾兒九十三 (錄事司八十一 丹陽縣
一十二)

回回三百七十四 (錄事司二百九十六
丹徒縣三十一 丹陽縣四十 金壇
縣七)

也里可溫一百六 (錄事司九十二 丹徒
縣七 金壇縣七)

河西三十五 (錄事司一十九 丹徒縣一
十六)

契丹一百一十六 (錄事司一百四 丹徒
縣一十二)

女直二百六十一 (並錄事司)

漢人九千四百七⁹⁾ (錄事司七千九百九十
九 丹徒縣七百六 丹陽縣五百三
十九 金壇縣一百六十三)

軀二千九百四十八 (錄事司二千七百二十
丹徒縣八十 丹陽縣八十八 金壇
縣六十)

蒙古四百二十九 (錄事司三百九十七
丹徒縣六 丹陽縣一十七 金壇縣
九)

畏吾兒一百七 (並錄事司)

回回三百一十 (錄事司二百七十九 丹
徒陽一十一 丹陽縣一十八 金壇
縣二)

也里可溫一百九 (錄司事 (sio) 一百二 金壇縣七)]

河西一十九 (錄事司一十 丹徒縣九)

契丹七十五 (錄事司六十八 丹徒縣七)

女直二百二十四 (並錄事司)

漢人一千六百七十五 (錄事司一千五百三十三 丹徒縣四十七 丹陽縣五十三 金壇縣四十二)¹⁰⁾

[CSCCC, c. iii, fol. 14, 19 v^o—23 r^o.]

10) We have thought it best to translate the Census as it is printed, but we give here in condensed tabular form the principal headings as they seem to have stood in the manuscript copy. (In the original the order of the entries under 單貧 was *da*, 1104; *ming*, 1241; *do*, 11477.)

	戶	口	軀	名
土著	100065	613578	232	5753
僑寓	3845	16555	2948	
單貧	4104	11477		1241
僧	810	2403	16	
道	141	279		
	108465	628383	3156	6994

From a comparison of this with the full table, it will be seen that the whole section there headed 客 *k'o* or *Soyacmers* is formed by very drastic emendation on the part of the nineteenth century editors. It is certainly not easy to realize that the errors which are presupposed by the emendations are such as are likely to have been made; nor on the other hand is it easy to explain the heading 名 *ming* as it stands in the manuscript. Perhaps there may be an antithesis between *ch'o*, body, and *ming*, name.

	土 著			僑 寓			客			單 貧			僧			道		
	戶	口	軀	戶	口	軀	戶	口	軀	戶	口	軀	戶	口	軀	戶	口	軀
蒙古				29	163	429												
畏吾兒				14	93	107												
回回				59	374	319												
也里可溫				23	106	109												
河西				3	35	19												
契丹				21	116	75												
女直				25	261	224												
漢人				3,671 1)	9,407	1,675												
民	84,083	469,109	67	(1947)			5,169		1,210	3,676	10,419							
儒	737	3,123	38	8			92		3	2	7							
醫	300	2,388	2	5			2			5	15							
馬站	2,955	41,819	59				7											
水站	761	10,384	2	26														
遞運站	31	805	1															
急遞鋪	204	2,240		2			(2512)											
弓手	292	3,663								1	2							
財賦道	4,485	31,902	4				9		1	36	110							
海道梢水	374	3,299					1			1	3							
匠	3,586	34,337		18			19			7	47							
軍	2,165	10,106	47	3,367			201		27	300	861							
樂人	90	599		4			2			4	13							
龍華會善友	2	304																
陰陽				1														
打插				14														
怯憐口				23														
僧行													2,027					
尼行人													316					
俗人													60					
道冠																465		
女冠																64		
俗人																41		
Extra			2	9														
TOTAL	100,065	613,578	222	3,845	10,555	2,948	5,753		1,241	4,104 (4,092)	11,479 (11,477)	16	310	2,403		141	570	

1) This figure represents the sum of the sub-classes below, in the same column.



MAP
OF
CHEN-
CHIANG

- old city gates - position doubtful.
- modern city wall - gates numbered, etc.
- roads as marked in modern map.
- ||||| canals -

鎮江府城圖



MÉLANGES.

L'ORIGINE DE T'OU-KIUE, NOM CHINOIS DES TURCS.

Les orientalistes sont aujourd'hui d'accord pour reconnaître dans le chinois 突厥 T'ou-kiue la transcription du nom même des Turcs (Türk); cette transcription cependant n'est pas en apparence des plus satisfaisantes. T'ou-kiue est un ancien 'Dw'è-k'q3, qui semblerait supposer un original 'Dürküt. Mais il faut se rappeler: 1° Que les Chinois des VI^e—VIII^e siècles ont souvent entendu et transcrit comme des *d* les *t* initiaux de l'Asie Centrale; c'est ainsi qu'ils ont toujours transcrit *darqan* au lieu de *tarqan*; il en est de même d'ailleurs dans la transcription tibétaine métathétique Drug ou Den-gu du nom des Turcs. 2° Qu'il n'y avait pas en chinois ancien de forme mouillée correspondant à 'dw'è non mouillée; mais la mouillure du second caractère de transcription fait foi pour l'ensemble. Les Chinois ont donc rendu de leur mieux ce qu'ils croyaient entendre 'Dürküt, pour un original 'Türküt.

Mais d'où pouvait venir une forme 'Türküt? Elle n'était pas turque essentiellement; les anciens monuments turcs ne connaissent que *türk*, dont le pluriel serait *türklär*. Toutefois, l'hypothèse se présente naturellement que nous puissions avoir affaire dans 'Türküt à un pluriel «mongol», c'est-à-dire en -üt (-üt) après consonne (sauf -n, auquel cas -n, toujours instable dans les langues turques et mongoles, tombe et est remplacée par -t) et -s ou parfois -t après voyelle¹⁾. C'est par un pluriel de ce genre qu'on a proposé depuis longtemps

1) La transcription chinoise ne permet pas de décider de la nature sourde ou sonore, explosive, spirante ou liquide, de la finale; on pourrait aussi bien, du seul point de vue chinois, supposer, au lieu de 'Türküt, des formes 'Türküt, 'Türküt, ou même 'Türkür et 'Türkül. Les mongoliseurs russes, à la suite de Schmidt, admettent généralement qu'en mongol altériales, et tout au moins au XIII^e et au XIV^e siècle, il faut transcrire la finale du pluriel par -s et non par -t; c'est la transcription adoptée par Schmidt dans sa traduction de Senang-Selou, et par M. Ramstedt dans ses *Mongolische Briefe aus Idikut-schükri bei Turfan*. J'ai préféré -t pour les raisons suivantes: 1° la prononciation moderne est en -t; 2° au XIII^e et au XIV^e siècle, on a toujours -t et non -s, tant dans les écrits musulmans comme Rachid ed Din que dans les transcriptions chinoises, si nombreuses, du *Tan te'ao pi cha*; 3° même sous les Tang, les inscriptions de l'Orkhon, qui distinguent

d'expliquer le nom de Tangût; les cas similaires abondent à l'époque mongole pour les noms de peuples, tant dans l'*Histoire secrète des Mongols* (Yuan tch'ou pi che) que dans Rachid ed-Din. Est-on fondé à faire intervenir un pluriel «mongol» dans le cas des T'ou-kine?

En premier lieu on ne doit pas oublier que si les pluriels en -t ne sont pas vraiment turcs, les plus anciens textes turcs nous en ont cependant fourni quelques exemples: on a *tarqat*, pluriel de *tarqan*, *ibarak*, pluriel de *ibara*, et peut-être *gilpayut* (apparenté à *alpayut*?) dans les inscriptions de l'Orkhan¹⁾; les manuscrits ont donné *tegit*, *bayayut*, *el-ügäsi*, pluriels de *tegin*, *bayaya*, *el-ügäsi*?; ce sont là autant de pluriels «mongols» parfaitement attestés en vieux-turc²⁾.

Mais il suffit de lire cette série d'exemples pour remarquer que tous ces mots ont le caractère commun d'être des titres, des dignités, et on entrevoit alors une explication possible de leur présence dans des textes proprement turcs. C'est au milieu du VI^e siècle seulement que le nom des Turcs apparaît dans l'histoire, quand ces Turcs, les T'ou-kine des historiens chinois, triomphent des Jouan-jouan ou Avar.³⁾ Or il était tout naturel que ce jeune peuple empruntât beaucoup, dans son organisation politique et administrative, au royaume plus ancien qu'il supplantait. En fait, les T'ou-kine ont hérité des Avar le titre suprême de *qayan*, que les souverains Avar avaient été les premiers à porter en Asie centrale; le titre de *tägin*, si connu dans l'épigraphie turque de l'Orkhan, existait également avant la fondation du royaume T'ou-kine, puisqu'il est attesté au début du VI^e siècle chez les Hephthalites qu'il n'y a aucune raison de tenir pour une tribu spécifiquement turque⁴⁾. Il est donc vraisemblable que les titres

soigneusement entre *t* et *d*, se livrent *tarqat* et non *tarqad*. Ce n'est pas à dire d'ailleurs que des formes en -d n'aient jamais existé; je crois bien au contraire à l'unité d'origine des formes de pluriel en -t, -r, -l, -s, qui se rencontrent dans les langues «arabo-altaïques» depuis le hongrois jusqu'aux langues tongoues, et le passage n'a pu sans doute se faire de l'un à l'autre que par des intermédiaires à dentale sonore et même spirante; seulement, dans les formes du type proprement mongol, c'est l'explosive dentale sourde qui est seule attestée.

1) Cf. les vocabulaires joints aux travaux de MM. Radlov et Thomson, et aussi Hamstedt, *Zwei sibirischen Runenschriften*, dans *J. Soc. Asiat. anglaise*, 1913, t. 30, fasc. 2, p. 27 et 37.

2) Cf. F. W. K. Müller, *Uiguren II*, p. 37; *Mahmūdīyag*, p. 9, 29.

3) Si l'explication nausille de *el-ügäsi* par agloire de la nation est juste, *el-ügäsi* aurait une formation turque, au cas possessif, de *el* + *ügä*. Il faudrait alors admettre que ces pluriels «mongols» ont été parfois étendus par analogie à des titres purement turcs.

4) Il en est de même pour l'apparition du nom des Taraske dans l'Inde. Les mentions antérieures du nom des Turcs qu'on a cru découvrir dans la littérature classique ou en Chine ne paraissent nullement.

5) Le laire de côté l'origine du titre de *qadyu*, *šadyu*, qui remonte peut-être aux

le pluriel «mongole» en *-t* sont chez les Turcs un héritage des Avar, et par suite que, dans la langue avar, ces formes de pluriel existaient réellement. Précisément ce sont les Avar fugitifs qui, venant solliciter l'aide de la dynastie chinoise des Wei, lui ont révélé l'existence même et le nom des Turcs. Si, en avar, les pluriels se formaient normalement en *-t*, il est tout naturel que ces Avar aient parlé des Turcs aux Chinois en employant la forme *Türküt* que T'ou-kiue paraît impliquer nécessairement.

Cette théorie entraînerait, si elle se vérifiait, d'assez graves conséquences. Il ne paraît pas douteux qu'il y ait entre les langues «turques» et «mongoles» une parenté réelle, quoique le degré nous en échappe encore. Mais si on laisse de côté les «panmongolistes» anciens, comme Schuklt ou le P. Hyacinthe, et leurs épigones contemporains, comme M. Ponskiév ou M. Blochet, on avait tendance aujourd'hui à admettre que nous n'atteignons les formes spécifiquement mongoles qu'au temps de Gengis-khan; encore étaient-elles encombrées d'emprunts turcs. La solution que je propose pour l'origine avar des titres turcs en *-t* et de la forme *Türküt* semblerait indiquer qu'avant les T'ou-kiue, il y eût eu en Asie centrale au moins un empire dont la langue était plutôt de forme mongole que de forme turque. En somme il est bien certain que les Mongols du XIII^e siècle doivent beaucoup, dans le domaine politique et religieux, aux Turcs et particulièrement aux Turcs ouigours qui les ont précédés; cette influence a laissé dans leur vocabulaire des traces durables; mais à leur tour les Turcs ouigours succédaient aux T'ou-kiue proprement dits, et ceux-ci avaient hérité de leurs prédécesseurs Avar, plus voisins des Mongols, une partie de leur organisation et quelques-uns de leurs titres ¹⁾. D'autres alternances du même ordre avaient d'ailleurs pu se produire antérieurement; il y aura lieu d'en rechercher ultérieurement les indices en remontant jusqu'au premier empire des Hiong-nou ²⁾.

P. PELLLOT.

Hiong-nou, et fut successivement emprunté par une série de peuples d'Asie centrale dont certains, comme les Yue-tche, ne devaient même pas être apparentés aux Turcs et aux Mongols; les Avar paraissent d'ailleurs l'avoir connu; on voit qu'il apparaît fréquemment chez les T'ou-kiue. Il semble que ce titre ait eu dans l'Asie occidentale et l'Europe orientale un pluriel en *-t* (pluriel de majesté), mais les textes turcs et ouigours n'ont pas livré jusqu'ici de formes correspondantes **yabūt* ou **yabyas* (**yabyas*).

1) Je ne veux pas instituer ici une discussion sur la véritable origine des Avar des écrivains byzantins, mais je dois faire remarquer que le nom du célèbre *peyou* Bayan, aux alentours de l'an 800, représente la forme proprement mongole et non turque du nom; sous la dynastie mongole, plusieurs personnages bien connus se sont appelés Bayan, et il y a même un nom dérivé *Bayatai*, réservé à des femmes, semble-t-il; la forme turque correspondante est *Bay* (Bai).

2) J'ai indiqué les Avar comme le peuple auquel les Turcs devaient vraisemblablement ces pluriels «mongols». Il n'est toutefois pas absolument exclu que les Turcs les aient reçus des Wei (T'o-pa), qui régnaient alors dans la Chine du Nord, et dont nous possédons, en

LI-KIEN, AUTRE NOM DU TA-TS'IN (ORIENT MÉDITERRANÉEN).

On sait qu'au I^{er} siècle de notre ère, les Chinois désignaient l'Orient méditerranéen sous le nom de Ta-ts'in ¹⁾. Le plus ancien ouvrage qui nous ait conservé une description du Ta-ts'in est le *Wei li*, écrit au milieu du III^e siècle. Mais, dès le *Wei li*, la mention du Ta-ts'in est suivie de cette indication que ce pays est aussi appelé 犁靬 Li-kan. Le même renseignement a passé dans les histoires dynastiques postérieures: le *Hou han chou*, puis le *Tsin chou*, qui écrivent tous deux 犁靬 Li-kien, le *Pei che* (recopié aussi dans le texte actuel du *Wei chou*) qui orthographe 黎靬 Li-huan. Par là, les historiens identifient au Ta-ts'in le pays occidental qui était connu depuis la fin du II^e siècle avant notre ère sous le nom de 黎靬 Li-huan (chap. 123 de *Sseu-ma Ts'ien*) et que le *Ts'ien han chou* appelait 犁靬 Li-kan; il ne paraît pas douteux que cette identification soit justifiée. D'autre part, malgré les variantes graphiques, les diverses gloses phonétiques qui de bonne heure ont été jointes à ces noms montrent qu'on les devrait tous lire, en prononciation moderne, Li-kien. Ainsi l'Orient méditerranéen a été connu d'abord en Chine, lors du retour de Tchang K'ien en 126 avant Jésus-Christ, sous le nom de Li-kien, et ce nom a été remplacé dans le courant du premier siècle de notre ère par celui de Ta-ts'in.

Mais quelle est l'origine de Li-kien? M. Hirth (p. 170) a rappelé, pour les écarter avec raison, un certain nombre d'hypothèses antérieures: «regnum», «hellenikon», «legionem», «Lycias», «ἡλιούδα». Lui-même a proposé par contre de voir dans Li-kien une transcription de Bakem, un des noms indigènes de Petra. Il ne semble pas que depuis lors, c'est-à-dire depuis trente ans, personne ait proposé de solution différente. Et cependant, malgré l'ingéniosité déployée par M. Hirth pour mettre en valeur l'importance de l'emporium de Petra au II^e siècle avant notre ère, il serait bien singulier que les gens d'Asie centrale avec qui Tchang K'ien eut commerce en Bactriane eussent été chercher le nom de cette ville provinciale pour désigner l'ensemble de l'Orient méditerranéen.

Une autre solution me paraît plus vraisemblable, et si naturelle que je m'étonnerais d'être le premier à l'envisager. Grâce au commerce de l'Océan Indien, la vraie métropole méditerranéenne pour le royaume encore hellénisé de Bactriane,

transcription dans le *Nouveau dictionnaire*, un certain nombre de mots; toutefois, malgré les noms d'agents en -ia et sans -ia, le vocabulaire des Wei paraît plutôt «arabe» que «mongole»; mais la question vaudrait d'être étudiée de près.

1) Je ne veux pas charger de textes cette courte note; on les trouvera sans peine dans l'ouvrage bien connu de M. Hirth, *China and the Roman Orient*, 1885, in-8.

au II^e siècle avant notre ère, c'était Alexandrie d'Égypte. J'ai essayé récemment de montrer que c'était cette Alexandrie d'Égypte, lointaine et presque fabuleuse, qu'il fallait reconnaître dans l'Alasanda du *Milindapañha* pâli et dans l'A-li-san des versions chinoises ¹⁾. Au point de vue phonétique, Li-kien représente régulièrement *lê + kan*; l'équivalence est plus satisfaisante qu'avec Rokem, dont l'*m* finale transcrite par *n* ne s'expliquerait pas; le *-x-* (*-ks-*) rendu par *-h-* est peut-être à rapprocher de la métathèse *-sk-* qui a transformé Alexandrie en [Al-]Jlekanderiyah. Enfin tout ce que Sseu-ma Ts'ien et le *Ts'ien han chou* savent de précis sur le Li-kien, c'est que le roi parthe, en 140—86 avant notre ère, envoya à la cour de Chine des jongleurs (ou jongleuses) du Li-kien. Les jongleurs et jongleuses d'Alexandrie étaient célèbres, et cette exportation, avec celle des danseuses et musiciennes, est attestée par voie de l'Océan Indien aussi bien dans le *Périple de la mer Erythrée* que dans un passage du *Heou han chou* portant sur le début du II^e siècle de notre ère. Les Chinois, qui auraient eu d'abord un écho indirect de l'Égypte ptolémaïque, donnèrent à l'Orient méditerranéen le nouveau nom de Ta-ta'in quand, à la fin du I^{er} siècle de notre ère, ils furent mis en rapport avec l'Orient Syrien. Somme toute, je n'affirme pas que Li-kien soit Alexandrie, mais cette identification me paraît à tous points de vue plus satisfaisante que celles qui ont été proposées jusqu'ici; elle ne va contre aucun fait connu; je serais heureux qu'on la discutât.

P. PELLER.

1) *Ch. J. A.*, sept.-oct. 1914, p. 415—417.

NÉCROLOGIE.

André LECLÈRE.

M. André LECLÈRE, Ingénieur en chef des Mines, est mort au Mans le 15 octobre dernier. Attaché en 1897, à une mission technique, ayant pour objet l'étude du prolongement des voies ferrées du Tong-king dans les provinces de la Chine Méridionale confiée à l'ingénieur en chef des Ponts-et-chaussées Guille-mote, Leclère a donné un certain nombre de mémoires importants sur la géo-logie de ces régions. 1)

H. C.

1) Sur la continuité tectonique du Tonkin avec la Chine. (*Com. rendus Ac. Sc. Paris*, 131, 1900, pp. 955—9),

— Note sur la Géologie de la Chine méridionale. (*Ibid.*, 130, 1900, pp. 124—5. — *Revue Indo-Chinoise*, No. 77, 9 avril 1900, pp. 361—2).

— Étude géologique et minière des Provinces chinoises voisines du Tonkin. (*Ext. des Annales des Mines*, livraisons d'Oct. et de Nov. 1901 et de Sept. 1909). Paris, V^e Ch. Dunod, 1902, in-8, pp. 219, 12 pl.

— Les ressources minérales des Provinces chinoises voisines du Tonkin. (*Bull. Soc. Géog. Est*, 1900, pp. 543—550. — *Revue Indo-Chinoise*, 171, 27 janvier 1902, pp. 79—81).

BULLETIN CRITIQUE.

Docteur LUCIEN-GRAUX. — *Les Caractères Médicaux dans l'Écriture chinoise.* — Ouvrage orné de 270 figures. — Paris, A. Maloine, 1914, pet. in-8, pp. 276.

On sait que d'une façon générale un caractère chinois est composé de deux parties: un radical ou clef et une phonétique. Le nombre des radicaux sous lesquels sont rangés tous les caractères a varié suivant les époques, mais depuis la fin de la dynastie des Ming on en a fixé le chiffre à 214 qui a été adopté dans le fameux dictionnaire *K'ang Hi Tseu-tien*; ces radicaux comprennent de 1 à 17 traits (No. 214).

M. le Dr. LUCIEN-GRAUX a choisi la clef 104 composée de 5 traits 疒 prononcée *ni* dans le dialecte de Pe King: «C'est, dit le Dr. S. Wells WILLIAMS, peut-être la collection la plus naturelle de caractères dans la langue, car tous se rapportent aux maladies». Le Dr. Lucien-Graux a étudié tous les caractères qui se rangent sous cette clef, c'est-à-dire composés de cette clef et d'une phonétique; par exemple 疝 *chan*, qui veut dire *hernie*, formé de la clef 104 疒 et de la phonétique 山 *chan*, qui dans d'autres circonstances est la clef 46. Ici apparaît le vice de la méthode du Dr. Lucien-Graux: au lieu de laisser au caractère 山 *chan* son rôle de pure phonétique, il nous explique que ce caractère signifiant *montagne*, ce qui est exact, si le caractère 疝 veut dire *hernie*, ajoute-t-il, c'est grâce à l'addition de 山 à 疒: «Pourquoi, dit-il, l'adoption de cet élément

chan dans le caractère spécifique de la hernie? L'explication va de soi. La hernie n'est-elle point un gonflement sur le corps humain comme la montagne en est un autre sur la surface du globe? Ce n'est pas plus difficile. Comme on le voit la méthode consiste à superposer à la signification générale de la clef, la signification particulière de la phonétique; c'est ingénieux, mais a le tort de faire jouer à la phonétique un rôle qui n'est pas le sien, sauf exceptions.

Henri CORDIER.

BIBLIOGRAPHIE.

LIVRES NOUVEAUX.

La maison E. J. Brill vient de faire paraître en deux parties *Introduction to Modern Chinese* by A. G. de BRUX. L'auteur dit dans sa préface: "The main object in writing this book — the second volume of which will consist of leading-articles and longer stories — is to give the student of Chinese some examples of the language as it is used to-day by editors and writers generally. Almost all the phrases and sentences were collected from newspapers and pamphlets. At the end however I have given some hundred sentences taken from various translations by Legge, de Groot, Courreur, Giles, Chavannes and others, to show, that although new words and expressions have been introduced, the essential nature of the language remains the same. At one time or another to use each character as a verb is still as it was two thousand years ago a favourite principle with the Chinese". La seconde partie comprend les "longer stories"; l'auteur a réservé pour une troisième partie les éditoriaux ainsi que des proclamations révolutionnaires et un index. L'ouvrage forme donc un manuel pratique de la langue chinoise écrite actuelle.

Nous avons reçu les travaux suivants de l'Institut Oriental de Vladivostok; voir *T. P.*, juillet 1915, p. 431:

Томъ 60. des *Нантэи* — В. М. Мендренъ. *Исторія сюгуна* въ Японіи.

日本外史 卷 VI. 新田.

Томъ 36, вып. 3-й. Г. Ц. Цыбинковъ. *Пособіе къ практическому изученію монгольскаго языка.*

M. H. PARMENTIER vient de publier à l'Imprimerie d'Extrême-Orient à Hanoï, un excellent *Guide au Musée de l'Ecole française d'Extrême-Orient* illustré de quatorze planches.

Le Vol. I de la nouvelle édition par Henri CORDIER du *Cathay and the Way thither* de Sir Henry YULE vient de paraître; il renferme l'Essai préliminaire sur les relations entre la Chine et les Nations occidentales avant la découverte de la Route du Cap de Bonne Espérance.

Nous avons reçu du Ministère des Communications de Chine le ouzième tirage du *Report on the Working of the Chinese Post-Office for the third year of Chung-Hua Min-Kuo* (1914). (English and Chinese Texts.) De ce document il résulte que pendant l'année 1914, il a été reçu 341.665.400 lettres, cartes postales, journaux, échantillons, etc., et expédié 197.316.000 lettres et objets divers. La Chine comprend 1581 villes de district postal, 1321 bureaux et 6487 agences postales.

Des Douanes maritimes chinoises nous avons reçu: *Returns of Trade and Trade Reports, 1914*. — Part II. — *Port Trade Statistics and Reports*. — Vol. III. — *Central Ports* (Shanghai to Wenchow). — Vol. IV. — *Southern Coast Ports* (Santuo to Pakhoi). Part III. — *Analysis of Foreign Trade*. — Vol. I. — *Imports*.

Toujours actif, notre collaborateur, le Dr. B. LAUFER a donné dans le Vol. XV, No. 1, de la Série anthropologique du *Field Museum of Natural History* de Chicago un mémoire important: *The Diamond A Study in Chinese and Hellenistic Folk-Lore*; on se rappelle que le Dr. Laufer a déjà donné deux mémoires sur les rapports sino-helléniques: *The Story of the Pinna and the Syrian Lamb* dans le *Journal of American Folk-Lore*, Vol. XXVIII, 1915, et *Asbestos and Salamander* dans le *T'oung Pao*, cette année.

Nous avons reçu de la **Vajirābhāsa National Library**, de Bangkok, les ouvrages suivants en siamois. Voir *T. P.*, juillet 1915, p. 431:

- *Collection of works on Prosody Printed from the Manuscript kept in the Royal National Library* — ChandVarnavriti, Chand Matraviti by Somdet Phra Paramanujit; Kavya Saravilasini, Sri Vipulyakiti from Ayuddhya; Khlōng from the Cintamani of Pra Horadibodhi Ayuddhya with a Preface by H. R. H. Prince DAMRONG Rajanubhab B.E. 2457.
- *Porāna Gati Samoson*. Royal Historical Research Society. — *The History of Nang Nobamās or of Thao Sriculālakzana A Lady in the Service of Somdet Phra Ruang Printed from the Manuscript kept in the Royal National Library with a Preface by H. R. H. Prince DAMRONG Rajanubhab B.E. 2457.*
- — — — *Evidence given by Aparukamani a Burmese prisoner of war B.E. 2305 Printed from the Manuscript kept in the Royal National Library with a Preface by H. R. H. Prince DAMRONG Rajanubhab B.E. 2458.*
- *Royal Names given to Royal Palaces, Residences, Gates Forts, Ships, Elephants, Horses, etc.* With a Preface by H. R. H. Prince DAMRONG Rajanubhab B.E. 2457.
- *Porāni Gati Samoson*. Royal Historical Research Society. — *Collection of Histories Part I. History of the North; History according to the version of Hluang Prasūt; History of Cambodia; History of Burma and Pegu; History of Lan Xang.* With a Preface by H. R. H. Prince DAMRONG Rajanubhab B.E. 2457.
- — — — *Part II. The Appointment of the Chao Phraya of Nakhon Sri Dharmaraj; History of Muang Thalang; History of Muang Saiburi; History of Trangannu; History of Kalantan.* With a Preface by H. R. H. Prince DAMRONG Rajanubhab B.E. 2457.
- — — — *Part III. History of Patani; History of Songkhla, by Phraya Vijiengiri; History of Nakhon Chiangmai, by Phraya*

Maha Ammat (Run) With a Preface by H. R. H. Prince DAMEONG Rajanubhab B.E. 2457.

Vient de paraître à l'Imprimerie Nationale une *Grammaire de la Langue Khmère (Cambodgien)* par Georges MASPERO, pour laquelle a été composé, gravé et fondu un caractère Khmèr.

Le *Calendrier-Annuaire pour 1916* (14^e année) de l'Observatoire de Zi-ka-wei est arrivé; nous n'avons pas reçu celui pour 1915.

Le No. 1 du Tome XV du *Bulletin de l'Ecole française d'Extrême-Orient* renferme *Anthropologie populaire annamite* par L. CADIÈRE.

Il vient de paraître à Rangoon une bibliographie spéciale des Missions Catholiques sous le titre de *Bibliotheca Catholica Birmana* by the Revs. H. HOSTEN, S. J., and E. LOCK, British Burma Press, 1915, in-8.

CHRONIQUE

FRANCE.

Dans sa séance du Vendredi 3 Mars 1915, l'Académie des Inscriptions et Belles-Lettres a accordé le prix Stanislas Julien à M. Bernhard KARLÖREN, pour ses *Études sur la Phonologie chinoise*.

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